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Last Minute Briefs...

Changes in Merchandising Techniques

The evolution of dairy products cabinets used in stores is having a marked effect on the methods used in point of sale displays. Open type cabinets do not lend themselves to posters and streamers. Store owners and managers are becoming less enthusiastic about such material in their stores as a result. Trend appears to be toward developing package appeal. Another new wrinkle that looks very good is the Sealtest tie-in display. Goods such as cereals or doughnuts are shown on a display case located next to the dairy case. Both the display case and the products in the dairy case have the same color and design theme.

Vegetable Fats

Frozen desserts using vegetable fat in place of butterfat have gained a place in a number of markets. So far these markets have been confined to Texas, Missouri, and Illinois. Guessing on the part of many informed industry men, however, is that they will soon be legal in other states. Some activity in filled milks has been reported in Missouri. So far St. Louis is the market in which frozen desserts made from vegetable fats have enjoyed their biggest success. Major problem at the moment does not appear to be a method of meeting the vegetable oil challenge, but rather how to meet the challenge without alienating the producer groups. This is a serious problem.

Gallon Jug in Ohio

On another page of this month's issue of the AMERICAN MILK REVIEW, the story of the Lawson Milk Company and the gallon jug is brought up to date. Latest development in the phenomenally successful Lawson operation has been a move into Cleveland. Lawson is currently selling milk in Akron at 54 cents, in Cleveland at 67 cents. The Lawson company is reported to be in the process of building a new $1,000,000 plant in Cleveland. This plant will service 200 Lawson cash and carry stores that are to be opened in the city.

SHORT TIMERS *from the* Editor

Meeting the Challenge of Vegetable Fat

IN TEXAS you can buy a frozen dessert that looks like ice cream and tastes like ice cream for 19 cents a pint. In Akron, Ohio, you can buy real 3.5 per cent milk for 54 cents a gallon. We understand that one large firm and one small firm are trying out a "filled milk" in actual market tests. Although the three situations have wide individual differences, they all have certain basic things in common.

The first outstanding characteristic is the low price. The second, but less prominent characteristic, is the near hysteria into which markets are thrown when these low priced products make their first appearance. The reaction is always the same; consumer curiosity because of the low price and demoralization among the dealers.

Vegetable fat as a substitute for butterfat is a serious problem for the dairy industry. It is, however, not an insurmountable problem. Low priced milk is a problem, but it is not an insurmountable problem. There are many markets in which low priced milk and vegetable fat frozen desserts have met with remarkable success; Akron, Ohio, and St. Louis, Missouri, to name two. There are also other markets where the same packages or the same products have met with no success worthy of mention.

What is the explanation?

The explanation is quite simple. Markets where low priced milk or substitute products have been successful have been in markets where established dealers in dairy products have lost control of the market. They have not been successful in markets where established dealers have maintained control of the market.

When a low priced milk made its appearance in Indianapolis, the dealers did not lose control of the market. The result was a complete rout of the low priced milk. In Akron dealers did lose control of the market and lost their shirts to boot. In Houston, Texas and Chicago, Illinois, a frozen dessert made of vegetable fat made its appearance. Almost immediately most of the major dealers in these cities came out with their own vegetable fat brands. The incentive for a wide and expensive promotion was immediately removed because any dealer who attempted to promote his product was actually promoting the other products. Furthermore the curiosity factor was diluted if not eliminated because everybody was in it.

When a vegetable fat product appeared in St. Louis, it appeared suddenly, backed by an extensive and well planned merchandising campaign. The product was introduced by a firm not connected with the ice cream business. This firm gained control of the market and reaped a rich harvest.

The lesson is plain. DON'T LOSE CONTROL OF THE MARKET. If anybody is going to sell vegetable fat products or low priced milk, it should be those who are already in the dairy industry. In that way, the thing can be kept under control, and the devastation experienced in Akron and St. Louis can be avoided.

Every milk distributor, whether he likes it or not, is in the nutrition business. In this article, Dr. Zoe E. Anderson of the National Dairy Council explains, in terms that all of us can understand, some of the facts of this important science. The logic of knowing something about the nutritional aspects of our business is inescapable. We join Dr. Anderson in her admonition

Know Your Business, Mr. Dairyman

By ZOE E. ANDERSON
National Dairy Council

Exclusive feature

From farmer to routeman, knowledge of the food value of dairy products is a part of the dairyman's business. How much do you know about the food you market?

The world's most important business is production and distribution of food. The dairy industry produces and distributes the most valuable single food group in this Number One business – from the standpoint of the benefits which milk and its products contribute to human health.

It's good business to know as much as you can about the food you produce and sell. It's good business to see that your consumers know what your products do for them. Let's discuss nutrition and the role milk and other dairy foods play in satisfying individual and national food needs.

What Is Nutrition?

Nutrition is the process of supplying the body with all of the fuel and building materials it needs for growth, activity, and normal functioning. Happily, for most of us this process begins with the very satisfying experience of eating food.

To completely understand nutrition about which much still remains unknown, it would be necessary to know:

1) Everything that the various foods contain;
2) How much of each nutrient substance an individual needs at different periods of life;
3) How well each food is digested;
4) How well the nutrient substances in digested foods are absorbed and used by body cells;
5) How well the body is able to eliminate or excrete the unusable or undesirable substances which might also be present in some foods;
6) What combinations of foods will best supply all the needs of the individual.

From the standpoint of the dairy industry, much that we have already learned about nutrition has resulted from exclusion of milk, or some parts of milk, from the feed of experimental animals. This has been necessary because milk contains a wide variety of the substances required for good nutrition. Comparison of diets with and without milk, or fractions of milk, have often revealed the nutritional limitations of other foods and led to discovery of previously unrecognized essential nutrients.

What Do Foods Contain?

Foods contain: water; energy in the form of fats, carbohydrates, and proteins; a wide variety of amino acids in protein (some of which must be present in foods because the body cannot make them); a wide assortment of fatty acids in fats (some of which are necessary for good nutrition as they cannot be manufactured by the body); many different minerals and vitamins necessary for proper nutrition; and an unknown number of varying compounds which fit none of these classifications and do not appear to be required by the body from food.

ZOE E. ANDERSON

Not all foods contain all of these substances. Milk supplies more of the substances (nutrients) needed for good nutrition than does any other single food. Even milk is not a complete food in that it does not satisfy all food needs beyond the first few weeks of life.

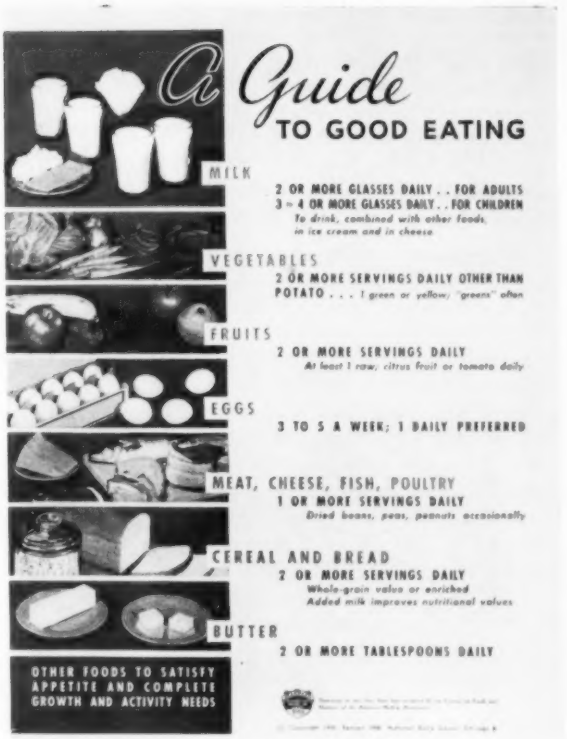
Iron, manganese, copper, and vitamin D (unless used to fortify) are the substances which are low in milk. While fresh milk is not low in vitamin C, the nutrient is easily destroyed in milk. Because of the special importance of vitamin D to infants and growing children, this nutrient has become widely added to milk. The calcium, found so abundantly in milk, is better absorbed and used for building strong bones when vitamin D is present in the diet. Use of vitamin D milk is considered the simplest and safest method of supplying this vitamin.

Water

All foods contain water, even those which seem very dry when eaten. For instance, whole milk is 87 per cent water while parmesan cheese is only 37 per cent water. Generally, the water content of foods is of minor

MAJOR NUTRIENT CONTRIBUTIONS OF THESE FOODS

Milk	**Protein** **Fat** **Carbohydrate** **Minerals** **Vitamins**
Butter	**Fat** **Vitamin A**
Vegetables	**Carbohydrate** **Minerals** **Vitamins**
Fruits	**Carbohydrate** **Minerals** **Vitamins**
Eggs	**Protein** **Fat** **Minerals** **Vitamins**
Cereals	**Carbohydrate** **Minerals** **Vitamins**


A Guide
TO GOOD EATING
MILK
2 OR MORE GLASSES DAILY . . FOR ADULTS
3 or 4 OR MORE GLASSES DAILY . . FOR CHILDREN
To drink, combined with other foods, in ice cream and in cheese
VEGETABLES
2 OR MORE SERVINGS DAILY OTHER THAN POTATO . . . 1 green or yellow; "greens" often
FRUITS
2 OR MORE SERVINGS DAILY
At least 1 raw; citrus fruit or tomato daily
EGGS
3 TO 5 A WEEK; 1 DAILY PREFERRED
MEAT, CHEESE, FISH, POULTRY
1 OR MORE SERVINGS DAILY
Dried beans, peas, peanuts occasionally
CEREAL AND BREAD
2 OR MORE SERVINGS DAILY
Whole-grain value or enriched
Added milk improves nutritional values
BUTTER
2 OR MORE TABLESPOONS DAILY
OTHER FOODS TO SATISFY APPETITE AND COMPLETE GROWTH AND ACTIVITY NEEDS

importance. When drinking water is not available or when the body is not able to handle or eliminate water properly, water content of food becomes vitally important.

The body itself is mostly water. While we can live thirty days without food, we can live only three days without water and only three minutes without oxygen. Water, then, is second only to oxygen in its importance in maintaining life. Individual needs for water vary widely. These needs are met by drinking water, the water contained in foods, and the water formed from foods in body cells.

No one merchandizes a food on the basis of its water content because water is so readily available otherwise. As this compound is one which is expensive to store and ship, varying amounts of water are freely removed from dairy foods as well as other foods, concentrating the solid nutrients without loss in nutritional values. The economic advantages of this process are well recognized.

Energy

The fats, carbohydrates, and protein in foods supply the energy on which the body operates. Unlike the water content, the calorie content of individual foods is highly important. Energy comes only from food. It is required to keep each body cell alive, to perform work, to support activity. As foods are metabolized* to carbon dioxide and water, the energy released can be measured in terms of calories, which is a unit of heat—just as a kilowatt is a unit of electricity or a mile is a unit of distance.

The amount of food energy an individual requires varies with:)1 body size; 2) amount of activity; 3) stage of growth or maturity; 4) pregnancy and lactation; 5) changes in the functioning of certain glands in the body; and 6) condition of health.

While hunger appears to be more closely associated with a need for energy than for any individual nutrient, we cannot satisfy our food needs simply by satisfying hunger. Foods have additional functions related to the supply of other nutrients.

How then should we get our energy? We should get it by a combination of foods which will supply us with enough of all the other needed nutrients at the same time as our energy needs are satisfied. Dairy foods are of special importance in any such combination of foods. *There is no food which supplies a better assortment of essential nutrients per calorie in a more palatable form than does whole milk.*

Fats and Carbohydrates

We look, primarily, to fats and carbohydrates to supply our energy needs because it is not economical to use protein for energy alone. Ounce for ounce, fats supply about twice as much energy as does either carbohydrate or protein. *This does not mean fats are fattening unless the quantity used makes the total energy intake in excess of body needs.* It is the total amount of energy we take in from all the foods we eat in relation to how much energy we use up that decides whether or not we become fat. Unused calories are stored in the body as fat and are formed as readily from carbohydrate and protein as from dietary fats.

In the United States, where so many of us carry excess weight, carbohydrate furnishes more than half of the calories available in our total food supply. Fats furnish only about one-

*A term used to describe chemical reactions in body cells and tissues.

third of the available calories. In choosing foods, both fats and carbohydrates should be included for reasons *other* than their energy content. There are nutrients needed by all of us which are found naturally only in fats. Certain of our carbohydrate foods carry different nutrients equally important to us.

Milk contains carbohydrate (milk sugar or lactose) and fat (butterfat) which are characteristic only of milk and are found in no other foods. The presence of lactose in milk is of particular significance in the manufacture of many dairy foods such as cultured milks and cheese – forming lactic acid when acted upon by a culture of bacteria. Lactic acid is also formed from lactose in the intestinal tract of man. The acid formed favors the absorption of calcium and possibly other minerals. The presence of lactose in the diet promotes the growth of lactic acid-producing bacteria in the intestines. These bacteria, which are beneficial, appear to prevent less desirable types. The intestines of all normal people are inhabited by microorganisms which appear to contribute to the nutrition of the individual by synthesizing needed nutrients for the body's use. Some types are more beneficial than others. The diet influences which types are present.

The recognized values of butterfat are discussed later in this article.

Protein

Why is it not economical to use protein as a source of energy? It is not good economy to use protein for energy because: 1) protein is needed for growth and maintenance of body tissues and if used for energy cannot be used for these purposes; 2) protein cannot be completely utilized for energy for it cannot all be burned completely to carbon dioxide and water; and 3) high quality protein is generally more expensive to produce, distribute, and store than are most fats and carbohydrates.

Protein is the major material of which the body is made. Even our teeth and bones contain protein in the cells from which these structures develop. Protein is also present in the fluids within the body – here it functions in countless ways: 1) aiding to carry oxygen to the cells; 2) helping to maintain the proper amount of water in blood and tissues; 3) assisting in the use of nutrients; and 4) fighting disease. Each kind of protein is different from all other proteins because each is made of a different combination of amino acids.

Amino Acids

The actual protein value of a food, often called the biological value, depends primarily upon its amino acid content. *Amino acids are the building blocks from which both food and body proteins are made.* Unless one's food contains the amino acids needed to manufacture body proteins, growth or replacement of body tissues is impossible.

The body can manufacture some of the amino acids it needs, others must be supplied, as such, in food. Those which must be present in food are

"I WANT IT GIFT WRAPPED!"

termed "essential amino acids." These must be supplied in food at regular intervals, and all must be supplied at the same time – for the body has no storehouse in which to keep excess amino acids from food until needed. Amino acids which are "left over" are burned for energy before the next meal, in spite of possible future need.

Milk contains at least eighteen different amino acids, including some of all the "essential amino acids." They are present in a favorable ratio, one to the other, for efficient use by the body. This is not true of all foods. Therefore, total protein content of a food does not give a complete and true picture of the value of that food as a source of protein. We need to know its amino acid content or its "biological value." *Milk has a very high biological value – higher than that of beefsteak.*

It is important that the dairy industry recognize that milk and milk products are excellent protein foods. It is important that the consuming public be made aware of the protein value of dairy foods.

Fatty Acids

As proteins vary because of their amino acid content, so fats vary because of their fatty acid content. As the individual characteristics and nutritional value of a protein depend on amino acid content, so the characteristics and nutritional value of a fat depend upon fatty acid content. As proteins contain certain "essential amino acids" which the body cannot manufacture, so fats contain certain "essential fatty acids" which the body must obtain from food because it cannot manufacture them.

Less is known about the need of man for fatty acids than is known about his need for amino acids. Until more is known, we cannot compare the relative nutritional merits of different food fats as we can different protein foods.

We do know, however, that *butterfat is unique in its fatty acid content.* It contains at least seventeen different fatty acids, more than any other commonly used food fat. It satisfies the body's need for the "essential fatty acids," as recognized at the present time. It is the only common food fat which contains important quantities of the "lower-chain" fatty acids. These give butterfat much of its individual characteristics: 1) its pliability at room temperature; 2) its distinctive flavor; 3) its ready digestibility. The manner in which these fatty acids are combined into butterfat makes it possible for butterfat to be evenly distributed in milk. *While many of the characteristics of butterfat have been duplicated, its composition is not duplicated by any other fat.*

Minerals

Minerals, which play a highly varied role in the body, are necessary to the very existence of life. Not only are they structural parts of various tissues, but they function in practically every vital body process. As neither man, animals, nor plants can synthesize a mineral, those which are needed by the body must be supplied in food or water. Thirteen minerals have been proven to be needed by man. Many others are found in very small amounts in the body. However,

(Please Turn to Page 70)

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Portrait of a Dairyman

EDWARD O. MATHER

BUD MATHER was not ten feet tall. That he was not may come as a surprise to a great many people. Certainly those who faced him on the tennis court and saw that booming serve of his come screaming down out of space will be skeptical. Certainly those who heard the razor edge of his logic at milk hearings expressed in that curious mixture of Texas and Oxford gained the impression of a man speaking from the heights. Certainly those pretenders who felt the whiplash of his scorn or those in trouble who felt the strength of his compassion or those seeking truth who learned the breadth of his thinking will find the statement open to question. But the fact remains that he was not ten feet tall, he was something over six feet, and every inch, every pound of him, was all man.

Bud Mather started his business career as a lawyer. He was a Phi Beta Kappa from the University of Texas. He went to Oxford as a Rhodes Scholar after his graduation carrying with him his father's promise, "Bud, if you come back with an Oxford accent, I will personally skin you alive." Bud came back to Texas after Oxford and began to practice law.

The "thirties" were evolutionary years. New patterns in government, in society, in business were taking shape in response to the forces released by a great war and a great depression. Bud was one of that large number of young lawyers who went to Washington where the great currents of change offered wide opportunity for the exercise of his talents. It was in Washington in the Department of Agriculture that he was introduced to the milk business. The new milk marketing program expressed in terms of federal orders was in the process of development. In this field, much of Bud's activities were devoted during his eight years with the Department. During the late war, he left Agriculture to work as Deputy Director of the War Foods Administration.

By this time, his abilities had asserted themselves. There were others who were aware of what "the tall guy from Texas" represented. In the latter part of 1943, he left the government service to become Executive Director of the Milk Dealers Association of Metropolitan New York.

It was a rough, tough assignment. It took skill, brains, and strength. For five years, Bud Mather ran the metropolitan show. He was the master of all the complex currents, all of the conflicting interests, all of the vigorous personalities, all of the sharp, artificial forces superimposed on the tremendous natural ones during that stormy period of transition. In May of 1948, he left the Association to take on another phase of the milk business. He became President of Middletown Milk and Cream Company, Inc. and its affiliated companies which includes the large Dellwood Dairy of Yonkers, New York.

Bud Mather understood the milk business as few men understand it. He understood it as a government man, as an association man, and as a businessman. From this great store of experience supported by as keen an intellect as there is in the industry, he gave freely and significantly. As a participant at State and federal hearings, as a speaker at industry gatherings, as a writer, as an association member, and as a member of the Editorial Advisory Board of the *American Milk Review*, he shared his knowledge and his thinking with the industry.

The story ends here. It ends with a devastating abruptness, ends with the full promise of the man yet to be realized. In the flower of his career, Bud Mather was stricken down. He died on October 1, 1952.

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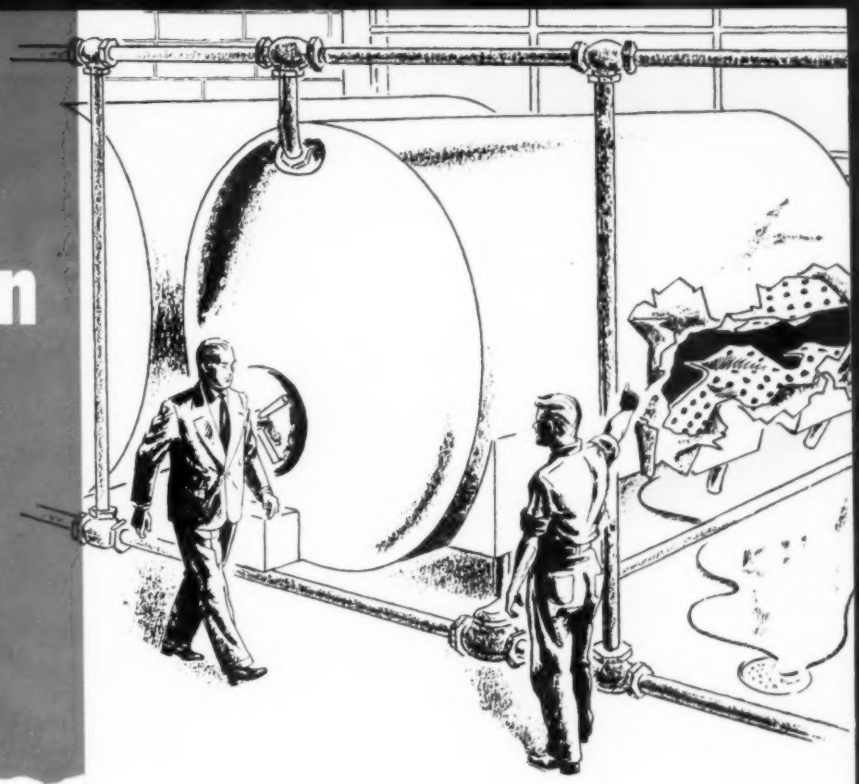

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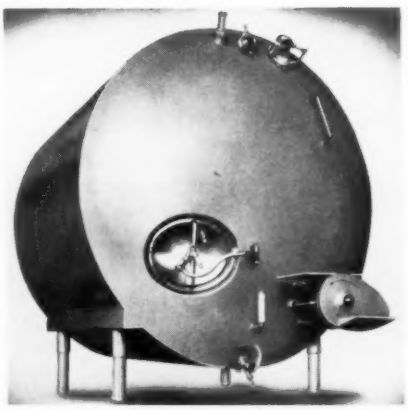

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Does Your Cream Feather In Coffee?

By H. V. ATHERTON *and* ALEC BRADFIELD

Exclusive feature

The condition known as feathering, which occurs when cream is mixed with hot coffee, persists in spite of extensive experimentation conducted in the past. Characterized by Sommer as a scum consisting of coagulated proteins with sufficient incorporated fat to float the particles, the problem has never been completely solved. Many of the conditions giving rise to the problem have apparently been resolved, but a careful study of experimental work done casts some doubt on these solutions. There has been a great deal of difference in the experimental procedures followed, and in many cases trials were conducted on a basis never found in actual practice. There has been very little published data on this subject since 1938.

In an attempt to obtain maximum coloring ability and freedom from oiling and cream plug, the practice of homogenization has been generally applied to coffee cream. There is general agreement that homogenization lowers the stability of cream proteins and thus leads to increased feathering. Homogenization pressures of 300-500 lb./sq. in. for coffee cream are generally recommended. Inasmuch as many of the reported results were for cream homogenized at pressures in excess of 500 lb./sq. in., there is some question as to the commercial value of these observations.

It is common plant practice in the New England area to lower homogenization pressures for coffee cream or to cease homogenizing the product entirely during the late spring and early summer months. This is supposedly done to counteract a lack of protein stability resulting from improper salt balances during this period. There appears to be no experimental proof that this seasonal salt variation is sufficient to force changes in processing technique.

Though there is universal agreement that acidity is of great importance in predicting whether or not a cream will feather, there is some difference of opinion as to what constitutes the danger point in acidity and the majority of workers do not indicate what they consider to be the danger point.

Because of the lack of conformity between reported experimental processes and commercial practices, it was deemed advisable to give further attention to certain phases in the selection and processing of commercial coffee cream with reference to their influence on the feathering phenomenon.

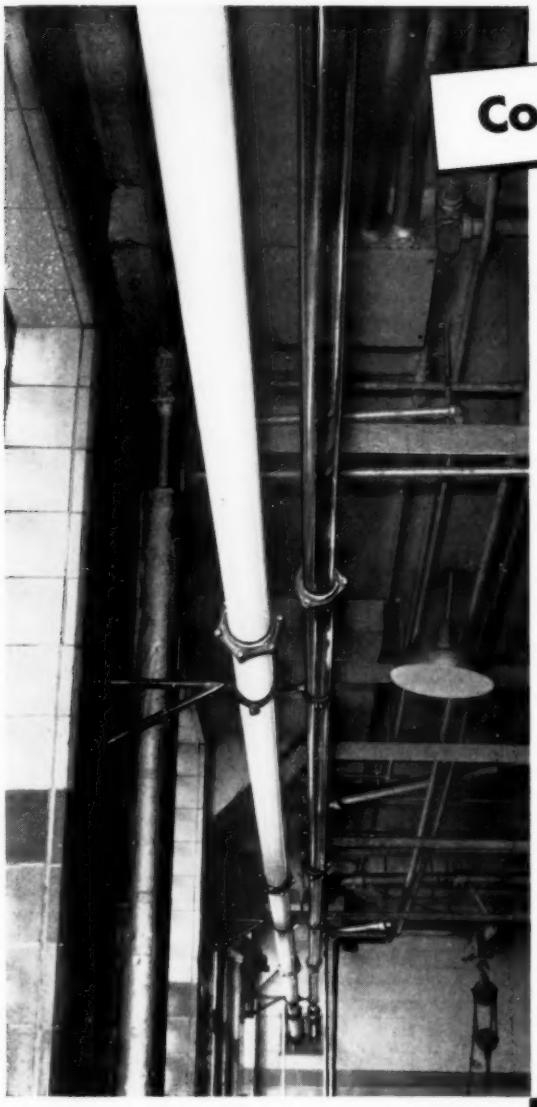
Alec Bradfield and H. V. Atherton are members of the dairy department at the University of Vermont. For several years, these two men have been trying to find out what makes cream feather in coffee. It is a difficult problem made more complicated by the number of variables over which milk processors have no control. One of the most baffling conclusions that Mr. Bradfield and Mr. Atherton reached was that because of differences in the chemical make-up of soil and water between localities, processing conditions which may cause feathering in one area may be perfectly acceptable elsewhere.

This article is a careful description of what these research workers did and the conclusions that they reached.

Experimental Method

Coffee used in these trials was made according to the method recommended in a joint report issued by the Restaurant and Coffee Industries. This is one ounce of vacuum grind coffee to 23 ounces of water made in a glass coffee maker. In preliminary trials, 5 brands of coffee were used with nearly identical results. Burgwald reported similar results. Therefore, one brand of coffee was used throughout the regular trials. The water used contained 2.8 grains per gallon (48 ppm) of $CaCO_3$, 1.3 grains (22 ppm) sulfates, plus traces of silica, other salts and dissolved gasses. The pH was 7.9.

It was found upon investigation in this area that the common practice was to add 1 ounce of light cream to



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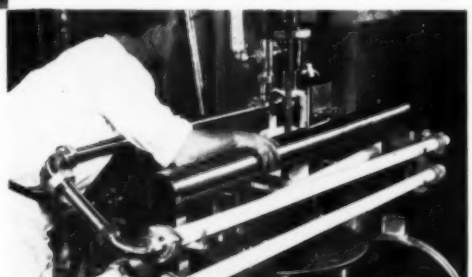

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5 ounces of coffee. The serving temperature of the coffee was 190°F. and of the cream 45°F.

Acidities on the cream were determined by the N/10 NaOH titration method.

Effect of Acidity of Unhomogenized Cream

Fifty-eight samples of pasteurized heavy cream were purchased from local stores and standardized to 25% and 30% fat content with pasteurized whole milk. After standardization, the samples were held in the refrigerator overnight. Acidity and coffee tests were run the following day. Following the initial trials, the samples were held for varying times at 42° F. and at room temperature to permit acidity increases. Further trials were run during this period.

Another 62 samples of cream, varying from 18% to 30% butterfat content, were made up from cream in the college dairy and treated similarly.

Table 1 shows the results of the effect of acidity with these 120 samples of cream. Acidities ranged from .10% to .55%. In no case was feathering noted with fresh samples. When acidities were allowed to develop to .22%, feathering began to occur, although some samples with acidities as high as .38% did not feather.

It was noted that one sample with acidity of 0.24% when fresh did not feather while a second sample with acidity developed from 0.10% in the fresh state to 0.22% after aging feathered heavily. Other samples feathered below 0.30% while one sample developed up to 0.38% acidity before feathering. Samples which definitely taste sour do not necessarily feather in hot coffee. These results are in agreement with the observation of Webb and Holm "that, because of variations in chemical or physical properties in different creams, no definite limits can be expressed for the acidity danger line with respect to feathering."

In another series of trials, an active lactic starter was added to samples of fresh cream and then the samples were held in a water bath at 80° F. until acid increases were noted. To other samples, a 10% solution (by volume) of commercial lactic acid was added to obtain desired acidity increases without holding. Though insufficient trials were run to be conclusive, it appeared necessary to develop acidity above 0.30% by starter activity and to 0.60% by acid addition before feathering occurred

TABLE 1.
Effect of Acidity of Unhomogenized Cream on Feathering

Acidity (%)	Non-Feathering Samples	Feathering Samples	Acidity (%)	Non-Feathering Samples	Feathering Samples
0.10	1	0	0.27	3	1
.11	6	0	.28	1	0
.12	16	0	.29	0	1
.13	18	0	.30	2	0
.14	20	0	.31	1	0
.15	9	0	.32	0	1
.16	8	0	.37	1	0
.17	2	0	.38	1	0
.18	5	0	.42	0	2
.19	1	0	.43	0	1
.20	1	0	.50	0	1
.21	2	0	.55	0	1
.22	4	1	Coagulated	0	2
.23	4	0			
.24	2	0	Total	109	11
.25	1	0			

These trials indicate that although cream of high acidity may feather, there is no direct relationship between titratable acidity and feathering.

Effect of Season of Year

The results of tests of 25 lots of cream from 4 different sources and covering a period of 20 weeks are summarized in Table 2. This period extended from about a month prior to the pasture season, through August, with trials run at approximately weekly intervals.

The milk from which these lots of cream were produced had a raw bacterial plate count ranging from 1,800 to 160,000. The milk was separated at 80° F. and the cream pasteurized at 152° F. for 30 minutes. The bacterial plate count of these lots of cream after pasteurization ranged from 2,000 to 10,000. The cream was cooled to 38° F., standardized at 18% fat with pasteurized whole milk, then vat-heated to 150° F. and homogenized at the desired pressure, using single stage homogenization. Samples were taken from the homogenizer, cooled in an ice water bath to 40°-45° F. without agitation, and then stored in the refrigerator overnight. Trials were run the following day. Coffee brew was prepared as in the preceding section but, due to the fact that very little feathering was encountered in the preceding trials, a ratio of six fluid ounces of coffee to each fluid ounce of cream was used instead of 5:1 as in the earlier trials. The reason for this change is based on the observation of Whitaker and Randall and personal experience that greater coffee dilutions increase the feathering tendency.

In early laboratory trials the authors occasionally noted differences in feathering tendency, depending on whether the cream or the coffee was poured into the cup first. Other workers have also reported observing this effect.

This variable was therefore added and it will be seen in Table 2 that the results appear in two parts; one column shows the results when cream was added to the coffee and the second column shows the effect of adding coffee to the cream.

Throughout the entire period, only 2 cases of feathering were noted when cream was added to coffee and those were found in samples homogenized at 2500 lbs./sq. in. When hot coffee was poured on the cream, feathering was somewhat more prevalent but never evident in samples homogenized at 500 lbs./sq. in. At 1000 lbs./sq. in. or above, feathering was frequent but there does not appear to be any seasonal influence. There is also no noticeable difference in reaction due to the source of cream. It is suggested that possible seasonal differences noted in commercial practice are due to lower cream quality resulting from insufficient cooling of the raw milk or cream with the advent of warmer weather.

Effect of Homogenization Pressure

This phase of the work consisted of making up 18% butterfat cream and homogenizing it at various pressures. These trials, 452 in all, covered a period of two years. Homogenization

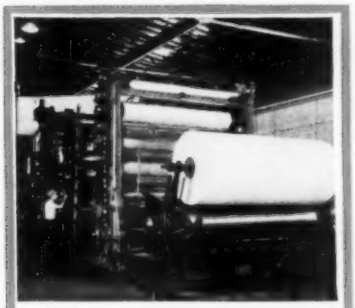

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TABLE 2 • EFFECT OF SEASON OF YEAR ON FEATHERING

DATE	PLANT	CREAM ADDED TO COFFEE — HOMOGENIZATION PRESSURE (LBS./SQ.IN.)					COFFEE ADDED TO CREAM — HOMOGENIZATION PRESSURE (LBS./SQ. IN.)				
		UNHOMOGENIZED	500	1000	1500	2000-2500	UNHOMOGENIZED	500	1000	1500	2000-2500
4-19-50	A	—	—			—					
4-26-50	C	—				—					
4-26-50	C	—				—					
5-3-50	B	—				—					
5-3-50	C	—				—					
5-8-50	D	—				++					
5-8-50	D	—				++					
5-15-50	D	—	—		—	—	—	—		+++	+++
5-17-50	D	—	—	—	—		—	—	+++	+++	
5-17-50	A	—	—	—	—		—	—	+	+	
5-23-50	D	—	—	—	—		—	—	—	+	
5-23-50	C	—	—	—	—		—	—	++	+++	
6-1-50	D	—	—	—	—	—	—	—	—	+++	+++
6-1-50	C	—	—	—	—	—	—	—	—	+	+++
6-7-50	C	—	—	—	—	—	—	—	—	++	+++
6-7-50	D	—	—	—	—		—	—	—	++	
6-14-50	D	—	—	—	—	—		—	+++	+++	+++
6-14-50	C	—	—	—	—	—	—	—	—	—	+++
6-27-50	C	—		—	—	—	—		—	—	+++
6-27-50	D	—		—	—	—	—		+++	+++	+++
7-28-50	D	—		—	—	—	—		—	—	—
8-7-50	D	—		—	—	—	—		+++	+++	+++
8-7-50	D	—		—	—	—	—		+++	+++	+++
8-28-50	D	—		—	—	—	—		+++	+++	+++
9-5-50	D	—		—	—	—	—		—	—	++

KEY — NONE
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THE SANITARIANS AWARD

PAUL CORASH

The 1952 Sanitarians Award, the citation presented annually in recognition of professional achievement as a Sanitarian by the International Association of Milk and Food Sanitarians, was presented to Paul Corash, Chief of the Milk Division, Bureau of Food and Drugs, New York City Department of Health, at its meeting in Minneapolis.

Paul Corash has been in the service of the New York City Department of Health for 25 years, having served successively as Inspector, Assistant Chief of Milk Inspection, and as Chief Milk Inspector since 1944.

The certificate accompanying the Award presented to Mr. Corash reads as follows: "For distinguished service in contributing to the public health welfare of the community he serves; for personalizing the ideals of the Sanitarian; for his contribution toward public recognition of the profession of the Sanitarian."

pressures ranged from 0 to 3100 lbs./sq. in. When the cream was added to coffee there was only one case of feathering in the entire trial regardless of season or homogenization pressure. This one case was noted on cream homogenized at 1000 lbs./sq. in.

Inasmuch as a great many eating establishments add coffee to the cream, Table 3 was prepared showing the results when this procedure was followed. This is a summary of the 452 lots of cream. Even with this kind of treatment it can be seen that feathering did not occur to any extent until pressures of 1000 lbs./sq. in. were reached. When this, or greater pressure was used, 28-60% of the samples feathered. However, pressures in excess of 1000 lbs./sq. in. often resulted in cream that was so thick that it did not mix well in coffee, and such pressures are not recommended.

Summary

A study has been made of three factors to be considered in the selection and handling of coffee cream in relation to their effect on the feathering phenomenon. An attempt was made to duplicate, insofar as possible, common commercial conditions in this region. These factors were selected from the many conditions having influence on the feathering tendency because they represent conditions which are either insufficiently covered in the literature or because much of the experimental data presented previously is either contradictory or did not appear to be valid under New England conditions. There is sufficient evidence to show that, because of differences in the chemical makeup of soil or water and other similar conditions beyond the control of the milk dealer, processing conditions which may cause feathering in one area may be perfectly acceptable elsewhere.

These trials indicate that titratable acidity of unhomogenized cream cannot be used to predict its behavior in coffee.

It is also shown in these trials that seasonality has no effect on feathering at homogenization pressures of 600 lbs./sq. in. or less if the milk and cream are handled properly.

Data presented indicate that homogenization pressures as recommended in commercial practice in the area for coffee cream are of little consequence in themselves in producing feathering of the cream in coffee.

It appears that feathering of cream in coffee is caused by an interplay of several factors rather than by any one single factor.

TABLE 3.
Effect of Homogenization Pressure on Frequency of Feathering

Homogenization Pressure lbs./sq. in.	No. of Samples Feathering	No. of Samples not Feathering	Percentage Feathering
Unhomogenized	0	149	0
500	0	22	0
600	8	64	11
1000	32	62	34
1500	16	28	36
2000	16	25	39
2500	7	18	28
3100	3	2	60
Total	82	370	22.16

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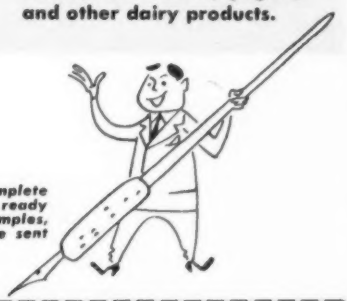

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INDUSTRY PROBLEMS

Chocolate Milk Manufacture

QUESTION—Our chocolate milk sales have increased over the past two years to the point where we are contemplating manufacturing our own chocolate syrup. Can you give us a formula for this and tell us how to process our product so that it will not settle on standing?

R. G. Y., Indiana.

ANSWER—It is not difficult to make a syrup for the production of chocolate milk, and this was done at our Cornell experimental dairy for many years. At the present time, we are adding the dry ingredients to our hot milk in the pasteurizing vat, and are well satisfied with the results we are obtaining. We find that less time is required by this system, and I will outline our procedure later in this article for your information.

One recipe for a simple chocolate syrup is as follows:

10 lbs. Cocoa
17 lbs. Sugar
5 gal. Skim milk or water

The sugar and the cocoa are first mixed dry and then slowly added to the skim milk or water. The mixture is then heated for 15 minutes at 180°F. The syrup should be cooled as quickly as possible and stored at a temperature as near 32°F. as is feasible. Some operators add 4 to 6 ounces of vanilla to the syrup after the mixture has cooled to 130°F. or below. The use of skim milk instead of water has the advantage of reducing the amount of dilution experienced when the syrup is added to your milk for the manufacture of the finished chocolate milk. It has the disadvantage in that the keeping quality of the syrup is usually poorer than when water is used. This syrup is mixed with milk at the rate of one gallon of syrup to nine gallons of milk to produce the finished product.

To eliminate sediment, it is essential that some material be added to increase the viscosity of the product. Sodium alginate, under the trade name of Cocoloid, or Carrageenin is often used. Cocoloid should not be added to the milk until the temperature has reached 150°F. during the pasteurization process.

When manufacturing chocolate milk without the use of syrup, a known quantity of milk is pumped into the pasteurizer and heating is begun. The proper proportions of sugar and cocoa are mixed together dry and then slowly added to the heating milk. When the temperature has reached 150° to 155°F., Cocoloid or a similar product is added as a stabilizer, and the entire batch is heated to 160° to 165°F. for 30 minutes. (The exact time and method of addition of stabilizer will depend upon the product used.) Sometimes even higher temperatures and longer times are employed. The product is cooled immediately after pasteurization and held at 38° to 40°F. until sold.

Freezing and Oxidized Flavor

QUESTION—Does the freezing of milk before it reaches the plant cause oxidized flavor?

C. S., New York.

ANSWER—We know that the freezing of milk may affect the properties of milk and milk products in many ways, but we have no definite proof that freezing is a direct cause of oxidized flavors.

Freezing will definitely increase the tendency for milk to form a cream plug, and freezing will tend to destabilize the product so that oiling off occurs and cream may "feather" in hot coffee. Freezing also decreases the whipping ability of cream and helps to decrease viscosity which will cut down sales of light cream.

Oxidized flavors do not occur when bacteria counts are high. Freezing may indicate very good cooling conditions and more often than not, the frozen materials will have a low bacteria count. Thus, indirectly, the better milks, containing fewer organisms, will have more oxygen available for off-flavor development and may tend to oxidize more rapidly.

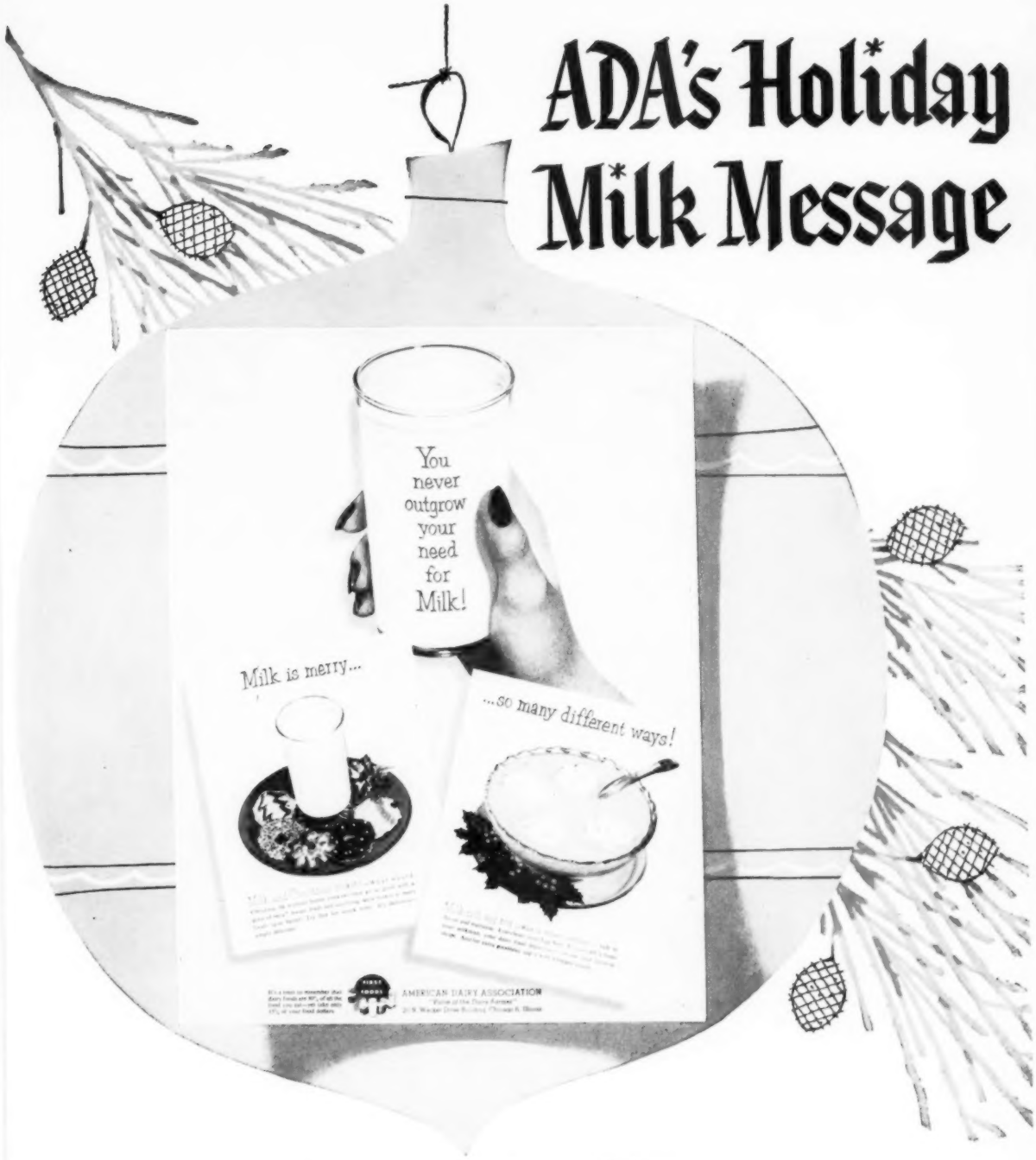
There are many causes of oxidized flavors. Some cows secrete milk which oxidizes very rapidly, and such milk is very hard to handle. Metallic contamination from equipment, especially from copper or copper-bearing metals, will speed up the oxidation process. Light may produce similar flavors.

However, it has been observed that if stored milk is frozen during the course of an experiment, the tendency toward oxidized flavor will increase and the developed flavor will be much worse.

We are not aware of any experimental data which show that milk frozen at the time it reaches the milk plant has more tendency to develop oxidized flavor, but we would expect that any differences between frozen and unfrozen milk would show the unfrozen product as the more stable.

In any event, freezing milk has so many undesirable effects that it will pay any milk handler to prevent freezing as much as possible, and to reject frozen milk because it causes a great deal of trouble in dairy plants and in the home.

ADA's Holiday Milk Message



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When You're Selling Milk

THE CUSTOMER IS AS IMPORTANT AS THE PRODUCT

By JAY A. KISS

Exclusive feature

Jay Archer Kiss, the author of this article on sales psychology, is an energetic sales consultant in the midwest. He has written and spoken on wide fronts relative to the problem of selling. In this article he addresses himself to a phase of selling that is only too often overlooked in the dairy industry. "You've done all you can with the udder," says Mr. Kiss, "let's get going on the heart, the human heart which controls decisions, the mind made up of moods, instead of the milk made up of molecules." You may not agree with Mr. Kiss, but we believe that he will make you think.

The average person knows very little about milk. Human preferences are based upon so many inconsequential elements that the dietitian or the chemist would find little compensation in their logic.

Hundreds of tests have been performed in order to secure public opinion upon an item of taste, and all too frequently the results were wholly unconvincing. Cigarettes have made much of the blindfold test in which a consumer tries several cigarettes and judges them strictly by aroma. You'd be surprised to make such a test yourself and discover how, by simply changing the order of testing, you change the results.

In other words, the average human being knows very little about flavor variations—scientific details or other qualities which we presume he uses for forming an opinion. The tea industry pays its tea tasters very high salaries for their ability to distinguish the taste of various teas and various brews of the same tea.

Now, then to milk. Is it bought because of flavor? Have you ever heard a consumer say, "Well, now that's milk! This is the way milk should taste." I have heard such expressions—made them myself. Was it the milk that made the enthusiasm? Was it the flavor in the milk? Was it the temperature of the milk? Was it the time of day? Or was it the quality of the company—the mood of the moment—the temperature of the dairy—or because this was the day when something good and important happened to me and anything I eat or drink, see or hear gets a "Grade A" award—simply because I feel fine?

If the mood you are in changes the flavor of the milk you drink, then a dairy man sells mood as much as milk. This is not very scientific. You'll get only a disgruntled look from the laboratory when you tell them this—but it is true. You learn to form opinions by surrounding influences. You even learn to favor a certain useless piece of fishing tackle because it once, quite accidentally, brought you in a good catch.

The Consumer Mind

Cold milk doesn't taste the same as warm milk. A matter of ten degrees changes the flavor even if it doesn't change the formula. In other words, it's not what's in the bottle so much as what's in the consumer – in his mind, in his experiences. A man visits Cleveland for the first time. It is raining. For years he will tell you, with every air of authority, that Cleveland has lousy weather. He's not talking about Cleveland—he's talking about a strictly personal and very limited experience. But, and here is the important phase, that limited experience is enough for him. He will decide upon that basis and try to influence everyone else on the same basis. So, if you love Cleveland, you better start thinking of people and not poetry—flourishes and not facts—minds and not measurements.

I hate to be trite but you can hide a lot of interesting and important truths if you get too close to the bottle of milk. The average consumer does not care to know that his milk comes from a cow. You'd be surprised to know how many children drinking milk (and complaining or praising it) never saw a cow.

The dairyman who has elevated the cow to a pedestal forgets that his interest in the cow is not her outgo but his income—and the consumer who picks up a glass of rich, fresh, homogenized, immaculate milk might not drink it with half the gusto if you right then reminded him that this delicious product was the end result of a biological process within a cow which terminated at the gentle caressing of a teat.

Let's stop thinking of how we get it—how we struggle and slave to keep it clean—how to pamper the bovine producers—how we pamper the county inspectors—how we cherish the globules of fat—and let's think of the man, woman or child who says, "Oh, boy—a glass of milk!" or "Listen, that stuff's not for me."

I believe we've been talking about

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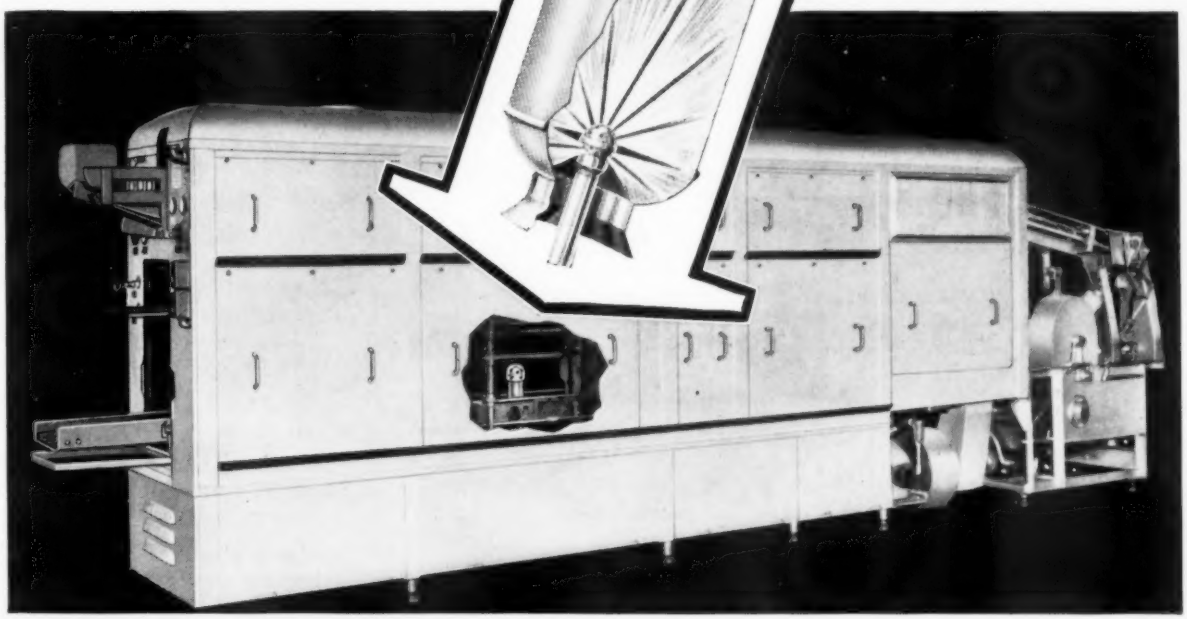

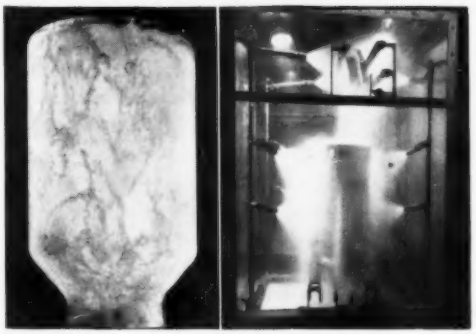

Showing the wash pattern of Rice & Adams Rising Jet at left. At right, Rice & Adams Cone-Nozzle Jets washing entire outside of can, and outside of covers, with DIRECT JET PRESSURE ACTION.

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BY EDWARD A JOSEPH
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ARTIFICIAL BREEDING
ASSOCIATIONS IN THE UNITED STATES
IN SPITE OF ITS LOW NIACIN CONTENT, MILK IS A GOOD ANTI-PELLAGRA FOOD
PENNSYLVANIA
MANUFACTURES MORE
ICE CREAM
THAN ANY OTHER STATE

cows too much and too long. A dead fish may make a wonderful dinner but I prefer to read the menu which says, "filet of sole" rather than "broiled dead fish."

So dairy men sell moods and not milk. They sell service and not sanitation. The mere suggestion that a dairy is sanitary often brings up a question long laid to rest. There are many key matters in milk production which the public takes for granted. "Our milk is clean" casts aspersions over the entire industry. To make an extreme example, the expression "No manure in our stables" would be negative because it plants an idea even though it negates the idea at once.

The dairy industry has come a long way. It has accomplished miracles all along the line. Each time a miracle was offered to the public it followed the same routine—1. Elation, 2. Deflation, 3. Resignation, 4. Obliteration. And you're right back where you started.

Yet, you kept on making the product better and better. Your technicians are amazed. Your chemists are delighted. Your sales manager is excited. And the consumer says, "It's about time."

That's because you are concentrating upon milk instead of moods. You've done all you can with udder—let's get going on the heart—the human heart which controls decisions, the mind made up of moods instead of the milk made up of molecules.

Sell by Persuasion

A man has many variables but milk is a fixed unit. A housewife changes from moment to moment in her tastes, wishes, personality traits, preferences. A dairy product is required to be constant in its make-up.

So let's sell by persuasion—by emotion—by understanding the buyer as much as we do the product.

Find out what your customer wants. Find out how your product can contribute to getting what he wants. Then take that one idea, even though it may be a minor quality, and play it up for all it is worth. Give it a cause and effect treatment. "Are you run down, tired, restless? Then drink milk, for it contains the very elements often lacking in modern diet."

That's simple—direct. Maybe, too direct, but it gives you the basic idea. It fits the solution to the problem. Outline the various problems which face the average family—in matters of diet. Here are a few:

1. Constant need of variety.
2. Health elements in terms of:
   Strength
   Cheerfulness
   Personality, etc.
3. Children's needs—
   School grades
   Complexion
   Growth, etc.
4. Matter of time consumed in cookery
5. Matter of cleanliness in food generally

I've only given a few. You've known of them and, no doubt, you know how milk provides what's needed. But have you ever moved over one more bracket away from the obvious. What else do people want which milk might provide indirectly:

1. Popularity—
   Through good disposition
   Through better health.
   Through improved complexion
   (A dance course is cleaning up all over the country not by teaching dancing but by promising popularity)
2. Long life—
   Through better health
   Through body normality
3. Happiness—

(Please Turn to Page 79)

Actual size

Look behind this new Taylor Dial

and you will see an all-new movement design that gives greater accuracy, greater flexibility of adjustment, and greater convenience for many temperature applications in your dairy.

This new 6" Dial Thermometer is ideally suited for use on Storage Tanks, Hot Water Tanks, Bottle Washers, Can Washers and Case Washers. Here are some of its advanatages:

You can read it easily from a considerable distance—and at eye-level too.

The die-cast aluminum case is waterproof.

Great durability, owing to its rugged construction.

For long life movement is stainless steel.

Any type of sanitary fitting available.

It can be face or flush mounted.

Black or white case available.

Temperature range minus 40° to plus 160°—safe for sterilization.

Many other standard ranges available.

Special pointer permits easy, accurate zero settings.

Your choice of double-strength sheet glass, shatterproof glass or anti glare glass.

FOR DETAILS of this and many other cost-cutting dairy instruments, ask your dairy equipment supplier: or write for **Catalog 500A.** Taylor Instrument Companies, Rochester 1, N. Y., and Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, flow, liquid level, speed, density, load and humidity.

TAYLOR INSTRUMENTS MEAN ACCURACY FIRST

On The Legal Side

Recent Court Decisions on Milk

By ALBERT W. GRAY

LAWSUIT FOR SUBSIDIES DISMISSED

A DECISION was rendered last June in favor of the Commodity Credit Corporation. An action had been brought against that organization for the recovery of subsidies for milk distributed in New Jersey with stops in the Philadelphia area where subsidies were in effect because of lower OPA price ceilings.

Order 61, made under the Agricultural Adjustment Act, had required the payment of a specific minimum price for Class I milk in the Philadelphia area. This minimum price was increased in April, 1942, from $3.70 to $4.05. As a consequence milk handlers were squeezed between the mill stones of the increase and the OPA ceiling price.

To remedy this inequality and assure a flow of milk into the Philadelphia area, the Commodity Credit Corporation had offered a 35c differential subsidy to milk handlers in that territory. This action represented an effort by a milk handler to secure payment of these subsidies for milk distributed in New Jersey on routes which included stops in the Philadelphia area.

The action was dismissed by the Federal District Court and this dismissal affirmed on appeal on June 5th of this year.

° ° °

Sylvan Seal Milk v. Commodity Credit Corp., 197 Fed. 2d 411.

CONTAINERS TAX EXEMPT

A DECISION rendered last July by the Supreme Court of Tennessee that the Memphis Dairy Exchange was entitled to a recovery of approximately $6,000, representing taxes paid under the Retailers' Sales Tax Act on bottles for which a 3c deposit had been collected by the Exchange.

Under that act, however, it is provided that the imposition of this tax "shall not include the sale, use, storage or consumption of industrial material nor materials, containers, labels, sacks or bags used for packaging tangible personal property for shipment or sale."

In its decision in favor of the Dairy Exchange the court said:

"There is no gainsaying the statement that a milk bottle is a container used for packaging milk. Therefore if the above quoted language means what it says, the sale of these milk bottles by the Dairy Exchange to the milk distributor is a transaction which is expressly excluded from the provisions of the Sales Tax Law."

° ° °

Evans v. Memphis Dairy Exchange, 250 S.W. 2d 547, Tennessee.

MASTITIS INFECTED DAIRY

A LAWSUIT in the Vermont courts brought to set aside the sale of a dairy farm and stock was based on the claim of fraudulent representations in the sale, in that the cows were afflicted with mastitis.

The Orleans County Court of that state set aside the sale for fraud, but last May that decision was reversed by the Supreme Court of the State.

In ordering a new trial of this lawsuit, the Supreme Court of that State said of this claim of fraud made by the purchasers of this stock:

"A cardinal principle is that the condition of the cows, the presence of mastitis and the seller's knowledge thereof, cannot be left to speculation and conjecture. The veterinarian testified that the development of the disease depended a great deal upon the way the cow was fed and upon the milking process, the latter particularly in its effect on the spreading of the disease from cow to cow.

"There was no testimony in this case as to this care and feeding. Manifestly testimony as to such care and milking would be very necessary in connecting up and explaining the presence of mastitis. If any of the cows had mastitis when the purchaser took possession with knowledge thereof by the purchasers, the spread of the disease might well have been due to the purchasers' conduct in the care and milking."

° ° °

Leblanc v. Deslandes, 90 Atl. 2d 802, Vermont.

OUR MARINES' LIFELINE to the sea was in danger. A Communist force of 4,000 men had seized the key hill overlooking Hagaru-ri in the desperate Chosin Reservoir fighting. The hill had to be taken. But there were no combat forces available to make the fight.

Lieutenant Colonel Myers, then a major, rallied together clerks, cooks, and other service personnel, and led a makeshift unit of 250 men in an assault up the snow-covered 600-foot hill. Lacking combat officers and non-coms, Colonel Myers ranged the entire attacking front, leading his outnumbered forces upward in the face of murderous fire concentrated on him. After 14 hours of bitter struggle, the enemy was routed, the hill captured, and the route to the sea secured. Colonel Myers says:

"When a handful of men can help turn the tide of history, just think of the invincible strength of 150 million people working toward a common goal—a secure America! That's what you, and millions of people like you, are accomplishing with your successful 50-billion-dollar investment in United States Defense Bonds.

"Peace doesn't just happen—it requires work. Our troops in Korea are doing their part of the job. You're doing yours when you buy United States Defense Bonds. Together, we can hammer out the peace we're all working for."

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Now E Bonds earn more! 1) All Series E Bonds bought after May 1, 1952 average 3% interest, compounded semiannually! Interest now starts after 6 months and is higher in the early years. 2) *All maturing E Bonds* automatically go on earning *after maturity*—and at the new higher interest! Today, start investing in better-paying Series E Bonds through the Payroll Savings Plan where you work or the Bond-A-Month Plan where you bank!

Lt. Colonel Reginald R. Myers, USMC Medal of Honor

Peace is for the strong! For peace and prosperity save with U.S. Defense Bonds!

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A Cement with Built-in Anti-bacterial Properties Offers Promising——

NEW MATERIAL for PLANT FLOORS

By DAVID LEVOWITZ, Ph.D.**

Dr. David Levowitz is a man of many words, many ideas, and many opinions, all of which are invariably good. He is the founder, builder, and director of New Jersey Dairy Laboratories. He is a formidable opponent in an argument whether public or private. He is a stickler for accuracy and utterly disdainful of the scientific stuffed shirt. He thrives on controversy and is about as fearless as a wild bull elephant. He is, in short, quite a guy.

In this article Dr. Levowitz describes the results of research that he has done on the problem of cement floors in dairy plants. It is against our usual policy to publish a paper that has already been given. In this case, however, the subject is so important and the discussion of such value that we make an exception. It is a long article, but we think that you will find it worth your time.

REGULATIONS and common sense require that the floors, walls and ceilings of dairy processing plants be impervious, durable and easily cleaned. Portland cement makes custom masonry of great strength possible at low cost; but integral concrete floors do not wear well in dairy processing rooms.

To avoid the annoyance and expense of endless repairing and replacement, concrete base coats are preferably surfaced, in dairy plants, with ceramic tile. Portland cement mortar is usually employed for grouting—but also requires much pointing-up and patching, so that some plants have gone to the considerable expense of emplacing tile in the thermoset resin. This, too, is not entirely trouble-free; expansion and contraction and traffic pressures cause fissures. Nutrient-laden liquids collect and ferment, and the resin bond is broken.

Tile walls and ceilings are easier to clean than integral cement masonries —but are equivalently capable of condensing nutrient vapor, and supporting microorganism growth. In spite of elaborate "sanitization" systems, airborne contamination is presently the greatest spoilage factor in the butter and cheese manufacturing industry—losses from other sources have been so greatly reduced by the last fifty years' improvements in heat transfer, processing and packaging equipment, refrigeration and transportation. Surfacing and structural materials have not kept pace.

In spite of the much wider pH range encountered in chemical plants, concrete floors endure admirably there. Why do they deteriorate so rapidly in dairy and other food-handling premises? Cement technologists have found the causes and developed a more than adequate cure.

A modified cement has been developed by the North American Cement Corporation. Its masonries (not much more costly than those made of Portland cement) are not only extraordinarily durable in dairy plants, they are permanently anti-bacterial. This first real advance in structural and surfacing material in a century warrants scrutiny. An understanding of cement and its reactions is essential.

Cement and Masonry

Portland cement is made by mixing calcium carbonate, derived from limestone, marl or chalk, with clay, shale or blast furnace slag; the mixture is burned to "clinker" at temperatures of incipient fusion, then ground to a very fine powder.

The individual particle is a complex, in which tricalcium and dicalcium silicates account for more than 70% of the mass, with tricalcium aluminate, tetracalcium aluminoferrite, calcium sulfate and some other materials making up the balance. All of the ingredients are quite insoluble in neutral water, but dissolve in solutions of either high or low hydrogen ion concentration.

When a cement particle is wetted with water, individual ingredients' molecules at the interface form a gel from which are crystallized their "hydrates." These are much less soluble through the entire pH range than the original salts. The hydrates' crystals interlock, enmeshing in addition to each other the non-reactive "aggregate" – added to produce maximum density and stability at lowest cost.

The use of the masonry dictates what aggregates will be selected. For making "mortar" to plaster walls or to grout tile, clean, sharp sand is mixed with the cement and water. For heavier duty "concrete," clean, weathered gravel or crushed stone is also added.

The powdered cement is mixed to paste with water, and the aggregate

*Presented September 4, 1952, at the Dairy Industry Conference, Cornell University, Ithaca, New York.

**Director, New Jersey Dairy Laboratories, 222-226 Easton Avenue, New Brunswick, New Jersey.

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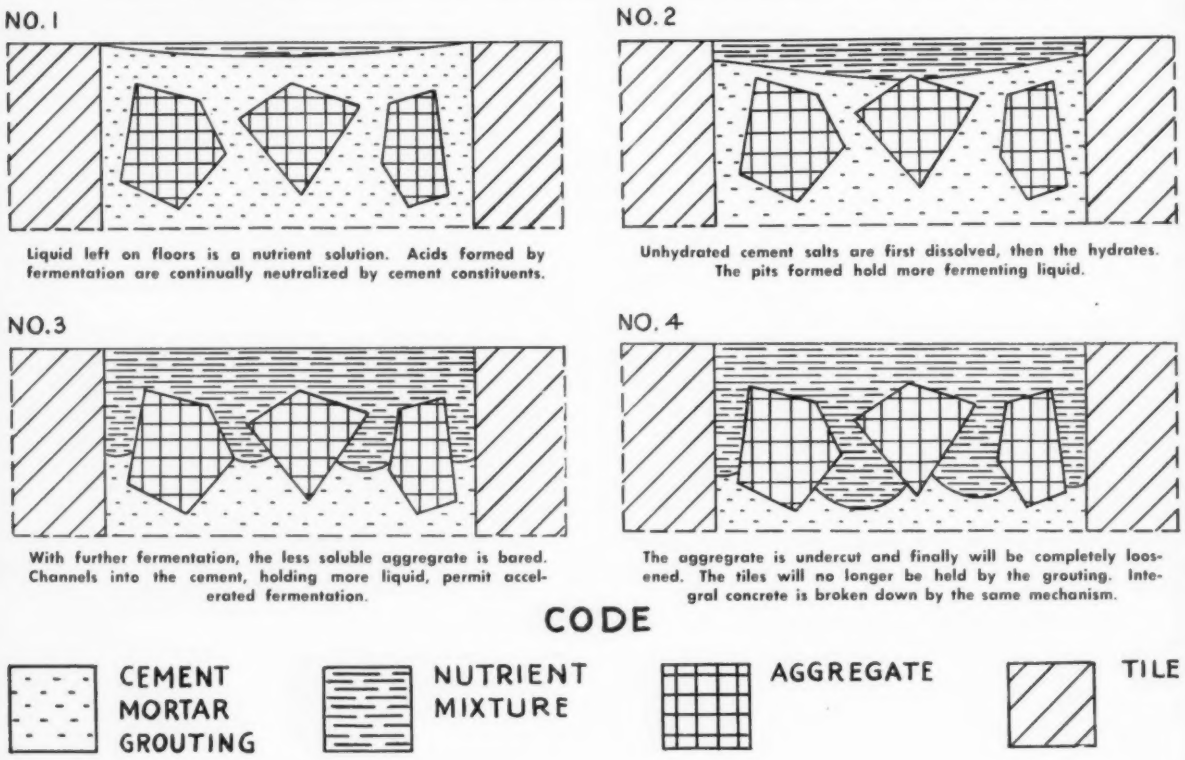
Decomposition of Cement Masonry in Tile Grouting or Integral Concrete


NO. 1
Liquid left on floors is a nutrient solution. Acids formed by fermentation are continually neutralized by cement constituents.
NO. 2
Unhydrated cement salts are first dissolved, then the hydrates. The pits formed hold more fermenting liquid.
NO. 3
With further fermentation, the less soluble aggregrate is bared. Channels into the cement, holding more liquid, permit accelerated fermentation.
NO. 4
The aggregrate is undercut and finally will be completely loosened. The tiles will no longer be held by the grouting. Integral concrete is broken down by the same mechanism.
CODE
CEMENT MORTAR GROUTING
NUTRIENT MIXTURE
AGGREGATE
TILE

is incorporated. Paste wets all surfaces of each particle of aggregate; smaller aggregate units fill all the spaces between the larger ones. As the cement salts hydrate, the crystals bind the non-reacting particles together, preventing aggregate-to-aggregate contact.

Aluminates' hydration begins immediately and is responsible for the almost immediate "setting" of cement masonries. The gradual increase of strength, characteristic of concretes as they "cure," is due to the slower hydrate formation by the silicates.

A proper masonry mix is one just viscous enough to pack without voids. The less water used in the mix, the denser and more rugged the final product. For sound masonry, the water must be neutral, the aggregate clean, the cement dry. Mixing must be thorough yet rapid; the mix must be transported to the point of application carefully, or aggregate distribution may be upset. The mix must be tamped and "worked" to compact it. The freshly laid masonry must be held at a suitable temperature, evaporation from the surfaces prevented, and the surfaces kept moist, to permit hydration to proceed normally.

Lime is liberated during the initial stages of cement masonry curing by the hydration reaction. If masonry surfaces are allowed to dry shortly after being "set," water will not be available for hydration, and the masonry will be weak. Masonries made carefully are much more durable than those prepared haphazardly.

Deterioration in Dairy Plants

Unhydrated and hydrated cement constituents are solubilized by extremes of pH. Cement masonries cannot, therefore, be expected to be as non-reactive as fused quartz. Reactions between acid or alkali and cement masonry are finite, however. Solubilization proceeds until neutralization is complete. Concretes have gracefully withstood the adverse conditions of chemical plants for years.

Milk and its "uncultured" products are almost neutral. Extremes of pH do not account, directly, for the comparatively rapid disintegration of even well-made cement masonries in dairy plants.

Consider the daily operating routine. Portions of the floors are intermittently wetted with concentrated nutrients from overflows, spillages, leaks and drips. The usual flushing dilutes them, but also distributes them more uniformly over the entire floor area. The floors are wetted by diluted nutrients as equipment is emptied and rinsed. The floors may be brushed with phosphate-containing detergent, then flushed; or brushed without detergent and flushed; or merely flushed. In any event, the treatment is not ever adequate to fully displace all nutrient matter. The liquid left on the floor is always describable as a dilute solution of carbohydrate and minerals in which protein and fat are dispersed.

The floors' temperatures are favorable for microbiological metabolism; microorganisms are always present. The end-products of their development on the nutrients are acidic.

The fermentation might be stopped by (a) the floors' drying; (b) the exhaustion of nutrients; (c) the accumulation of end-products; or (d) the application of disinfectants. The floors generally dry before nutrients are ex-

Profit-making dairies use

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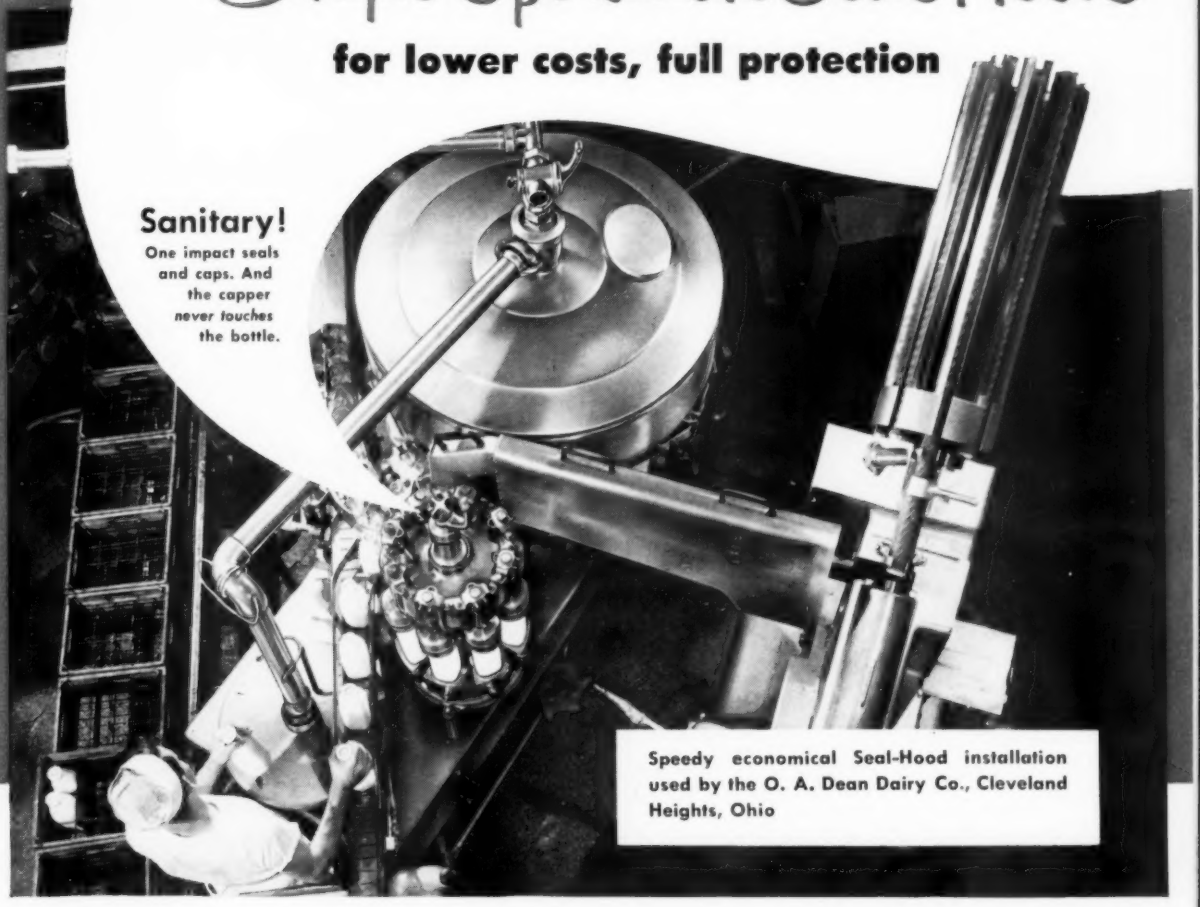
for lower costs, full protection

Sanitary!
One impact seals and caps. And the capper *never touches* the bottle.



Speedy economical Seal-Hood installation used by the O. A. Dean Dairy Co., Cleveland Heights, Ohio

Seal-Hood means triple savings. Since single-operation Seal-Hood requires no separate hooder, you require fewer operating personnel. And your time costs drop (while worker output rises)—no need to synchronize two separate cappers. And with one-operation Seal-Hood there's no "second operation" bottle breakage and milk loss.

Keeps milk sanitary, "protected." With one impact, single-operation Seal-Hood seals and caps. Given this full, long-skirted protection, milk keeps pure and wholesome from plant to doorstep. And once opened, the Seal-Hood closure snaps snugly on and off, safeguarding milk down to the last drop in the bottle.

Maintenance by experts. At no additional charge, all Seal-Hood installations leased to your dairy will be maintained by our carefully trained experts. Broken or run-down parts will be replaced promptly. But to get all the facts about speedy (up to 150 units per minute) economical Seal-Hood or the versatile Seal-Kap, write us today. If you wish, our representative will call at your office.

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hausted. Acid end-products don't get a chance to accumulate and bring the fermentation to a halt—they are neutralized by cement ingredients. Very few plants attempt to disinfect their floors during and after the operating cycle.

When the floors are rewetted, fermentation, halted by lack of moisture, begins anew. (Frequently, floors are flushed down before daily operations start.) A fresh supply of fermentable nutrients is applied to the floors by every daily operating cycle.

While a single day's acid development does not visibly affect masonry, a month's reaction does. Unhydrated molecules are displaced first; microscopic cavities form. These retain moisture longer and provide more surfaces on which end-products may act. The microscopic cavities become channels as unhydrated particles and hydrate crystals are progressively solubilized. The cement surface, coating the fine aggregate, thins—then disappears. The fine aggregate is bared, is undercut, and loosened. Soon the coarse aggregate becomes visible and is undercut, too. When it loosens, the masonry is ready for repair or replacement.

Floor fermentation is accompanied by the unpleasant aroma which is quite characteristic of dairy processing premises which have been unventilated for a few hours. Disinfectant applications do not dispel the aroma or stop the fermentation. Antiseptics cannot successfully penetrate into the channels, since these capillaries are usually filled with fermenting nutrient.

That the deterioration of cement masonry floors in dairy plants is due to the fermentation of nutrient residues was determined by members of the research staff of the North American Cement Corporation. They also charted the course of the reaction—the unhydrated molecules are attacked first by the acids generated, after which the hydrates are solubilized.

These men agreed that to combat it, an antiseptic capable of permanently preventing microorganism metabolism had to be incorporated into masonry. From their knowledge of cement and its products, they knew that "saturating" a completed structure was bound to be unsuccessful—uniform

"I KNOW HE'S AN EXPERT JUGGLER, BUT IT SCARES ME EVERY TIME!"

distribution could not be achieved that way. To add an antiseptic to the masonry mix is sure to be inadequate, too. Assuming that whatever is selected is compatible with the cementing reaction; if it were insoluble, it would be "masked," like aggregate; if it were soluble, it would be displaced from the surface before the masonry was even cured. A disinfecting agent was required whose chemical nature would permit it to be made a permanent component of the cement particle. Such an antiseptic would be most effective if combined with a cement which could hydrate more promptly than the standard, so that greater structural strength would be obtained more rapidly.

Air-borne Contamination

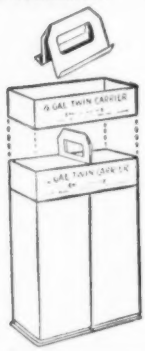
Unless the relative humidity is an absolute zero, the air in food plants will contain microorganisms and molecules of moisture and of the product being handled. Convection currents ferry them all about the premises; they are attracted to, and are deposited "condensed" on, walls, ceilings and floors. Cheese-curing operations are outstanding examples in the dairy industries, of how, without nutrients being intentionally applied to the premises' surfaces, mold colonies can grow there luxuriantly.

Convection currents are continually recharged with vegetable cells and spores which have ripened on walls, ceilings and floors. As the air contacts sterile or unsterile equipment and foods at one or another processing stage, spoilage organisms are deposited. Elaborate sanitization systems have been devised to decrease airborne contamination. These are expensive and, up to now, have never been more than partially successful. The extent of condensation on any one individual square foot of surface may be entirely unrelated to that depositing on any other, immediately adjacent. Where rooms are quite crowded with equipment, mold colonies develop on some areas much more rapidly than on others. To keep walls and ceilings in such premises clear of mold entails almost constant scrubbing.

More nutrients are deposited on dairy plant floors by the daily operating cycle than on the walls and ceilings by convection. The researchers of the North American Cement Corporation agreed that if a cement could

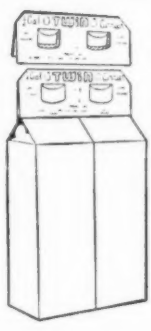
DAIRYMEN! THE CAMPBELL TWIN MILK CARRIER

Solves Your half-gallon problem—and is a surprisingly simple means of cutting costs.



For Flat Top

This simple cardboard handle makes a neat compact unit of 2 one-quart cartons.



For Pyramid Top

The handle is stapled on, and the inexpensive stapler is easy to operate.

"We have been using your two-piece Twin Milk Carriers since about December 1, 1951, and we are very pleased with the results. Our wholesale volume has about tripled since using these carriers with our Canco style milk cartons."

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STANDARDIZE, SEPARATE AND CLARIFY

without shutdown • without bowl change • with ONE Sharples MP

Here's the story of one of the dairies from coast to coast which have the Sharples MP in daily use:

Brandt DAIRY Inc.
ARRINGTON, ILLINOIS
QUALITY DAIRY PRODUCTS

West Dairy Equipment Company
356 Willard Avenue
Elgin, Illinois

Attention: Mr. J. L. West

Subject: Sharples Multi-Purpose Machine

Gentlemen:

We have had in use during the past 6 months a Sharples Multi-Purpose Standardizing Clarifying Separator processing approximately 40,000 lbs. of milk per day.

This machine replaced a clarifier and hot milk separator previously used to perform our regular clarifying of whole milk and hot separation of milk for cream and cheese by-products.

By installing the Sharples machine, we immediately eliminated one centrifugal machine, one positive pump, one preheater for separating, one surface cooler for cream, one plate cooler for skim, and one hot water circulating unit.

We now clarify and separate cold and have done away with "manual" standardizing completely. We have found it unnecessary to purchase extra cream from outside sources since putting the standardizer in use.

Our plant personnel have been very happy over the reduction in equipment and piping and are 100% sold on the new machine.

All in all, we wish to tell you that the savings obtained in floor space, clean up time, and outside purchase of cream have convinced us that the Sharples machine is the most valuable equipment addition we have made in years.

Very truly yours,
BRANDT DAIRY INC.
By—

why buy 2 when 1 will do!

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dairy equipment division

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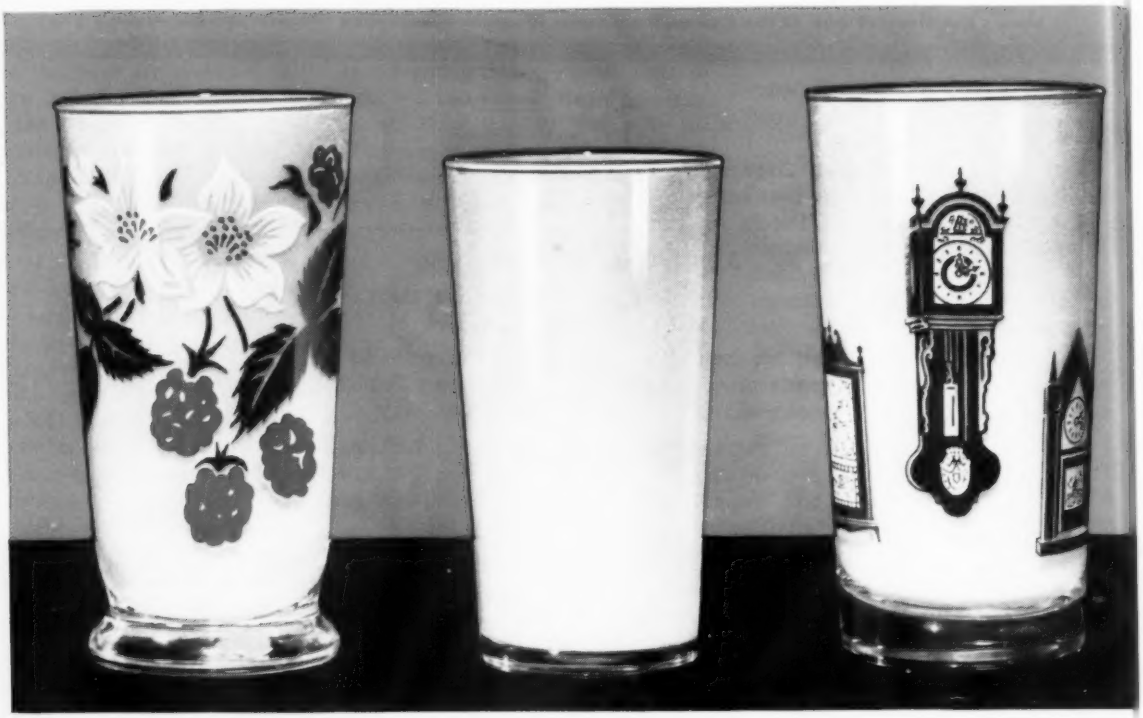

Promote your cottage cheese in these distinctive Libbey Safedge tumblers. We can supply them plain, with decorative designs, or special designs tailored for your own promotion program.

Promotional Containers . . Co

Handi-Square milk bottles are preferred by housewives because they provide glass protection, they save space, they are easy to handle.

Dry powdered milk especially need tight, moisture-tight protection on th tail shelf *and during use.*

Attractive bottles for citrus juices and chocolate milk.

Distinctive and practical tumblers for cottage cheese.

Salad dressing and mayonnaise that protect and sell.

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nayonnaise

GLASS PACKAGES OFFER the utmost in dairy product protection. Famous Libbey Safedge tumblers, decorated with ACL designs, will spark your Lenten promotion of cottage cheese.

The new, no-deposit, single-service jars are proving ideal containers for both wholesale and retail deliveries of cottage cheese and other dairy products . . . they're economical, too.

Whatever your needs—Handi-Square milk bottles, cottage cheese tumblers, juice bottles, single-service jars, or jars for salad dressing, powdered milk, or mayonnaise, Owens-Illinois is prepared to serve you.

Call our local office, now, or write: Dairy Container Division, Owens-Illinois Glass Company, Toledo 1, Ohio.

These lightweight cheese jars give product protection plus the convenience of no deposit, no return.

For all your glass package needs

Use **Duraglas** *Dairy Container Packaging Service*

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Available in Stainless Steel Special Bronze Stainless Nickel Silver

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be devised whose masonries would sublimate microorganism metabolism on floors, it should, if used for walls and ceilings, easily eliminate these surfaces from their role as reservoirs of spoilage organisms.

After experimenting with many classes of compounds, the North American Cement Corporation research teams finally found a group of antiseptics whose characteristics were those desired; these materials were compatible with the cementing reaction: their solubilities in the complete pH range were sufficiently similar to those of cement's hydrates to prevent their behavior as aggregate, or to decompose the masonry; they could be processed with the original materials from which cements are made, to be permanently incorporated into the cement particle.

The cementing ingredients were formulated and processed to expedite hydrate formation, so that the masonries made would cure more rapidly and be measurably more rugged than those derived from the Portland type. The "anti-bacterial cement" was now ready for testing on laboratory scale.

Anti-bacterial Cement

The lime which is liberated by the hydration of cement ingredients is itself bactericidal. Before tests on the characteristics of the newly formulated cements could be begun, the trial and control experimental masonries had to be fully "cured." This entailed immersion of the test masonry panels in running water for more than a month, after which the trial and control masonries were equivalently treated with nutrient media and inoculated with identical levels of various organisms. Sets of panels were also emplaced on the floors, walls and ceilings of various plants. The efficiencies, under test conditions, of homologues of microcidal compounds and of different cement processing procedures were determined from the performance patterns obtained.

Pilot-scale production of the rapid-hydrating, antiseptic-enriched cement, established as best by the laboratory program, was followed by further laboratory tests. These showed the characteristics of the Anti-Bacterial Cement (as the product was named by the patent owner, the North American Cement Corporation) to be unaltered by production on large scale.

The compound was now ready for tests under actual plant operating conditions. The traffic lane of the processing room of a milk plant in Alfred, New York was laid with ABC concrete shortly before the beginning of World War II. Other problems during and after the war prevented further attention to the ABC project. Four years ago, when the North American Cement Corporation was informed that the Alfred plant was to be converted to other use, members of the research staff revisited it. After the eight years' wear, the ABC concrete surface was entirely perfect, excepting only at the drain mouth, where it was roughened slightly. The history of the installation showed that regular concrete, installed previously, had been completely deteriorated in a fraction of the time. Portions of the ABC concrete were broken out of the floor and analyzed. The compressive, flexural and tensile strengths were still excellent, and the concentration of the anti-bacterial agent was undiminished.

While the performance of the ABC concrete at Alfred was impressive, the installation had been expertly planned and executed. It was decided that wherever conditions at food plants were described as particularly detrimental to regular cement masonry, where installations' lives were measured in months rather than in years, ABC would be recommended. No special precautions were to be demanded in its utilization, so that its performance under average application conditions might be appraised. It was suggested that a portion of each installation might be made with regular cement (as a control) but there could, of course, be no insistence on this.

A year ago, questionnaires were sent to all who had used ABC to learn how the masonry installations were faring. The responses uniformly showed them to be performing even better than anticipated. Members of the North American Cement Corporation research staff and I visited a number of places where the conditions described suggested particularly rigorous or unique application.

A masonry's life is measured from its initial setting to its complete disintegration. At a number of the installations visited, records of previous masonry floors established a "normal"

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. . . to help fight the strangest, strongest foe the world has ever known—*cancer.*

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This crusader's name? It could easily be your own. You see, *he is any generous person, fighting cancer by giving freely to the American Cancer Society's Cancer Crusade.*

- He believes the light in the "lab" must not be extinguished.
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- He believes more doctors, nurses and research scientists must be trained to carry on the fight so well begun.

Will *you* be that kind of crusader? Will you help us fight cancer? Remember—a victory now may mean protection for you later.

Without your support we may be defeated. With it, there is nothing we cannot do. Won't you help us by giving now . . . giving generously?

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be devised whose masonries would sublimate microorganism metabolism on floors, it should, if used for walls and ceilings, easily eliminate these surfaces from their role as reservoirs of spoilage organisms.

After experimenting with many classes of compounds, the North American Cement Corporation research teams finally found a group of antiseptics whose characteristics were those desired; these materials were compatible with the cementing reaction: their solubilities in the complete pH range were sufficiently similar to those of cement's hydrates to prevent their behavior as aggregate, or to decompose the masonry; they could be processed with the original materials from which cements are made, to be permanently incorporated into the cement particle.

The cementing ingredients were formulated and processed to expedite hydrate formation, so that the masonries made would cure more rapidly and be measurably more rugged than those derived from the Portland type. The "anti-bacterial cement" was now ready for testing on laboratory scale.

Anti-bacterial Cement

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Give to the
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life expectancy. In some instances, the ABC concretes had already exceeded the normal span three or four times and no signs of disintegration were as yet visible.

We found that the ABC had been employed in some installations where only true "chemical proof" ware could be fully suitable; yet the ABC masonries were "standing up" very satisfactorily—much better than might reasonably be expected of any cement. The ABC had been formulated to hydrate rapidly—to achieve high structural strength in short order. Increased resistance to high and low hydrogen ion concentrations, while possible from theoretical considerations, had not been expected to the extent observed.

Floor fermentation aroma was definitely sublimated—at a milk receiving station, at a milk pasteurizing plant, at a "return milk" handling room, at a cheese plant, at a sugar refinery, and at a brewery; and pointing and patching, previously frequent, are forgotten, now. There has been no further maintenance and repair expense.

Air-borne contamination was definitely reduced. One installation was spectacularly successful. In spite of heroic sanitization of floors, walls and ceilings, mold growths had reappeared practically daily at a certain brewery. Three years ago, all of this room's surfaces were coated with ABC mortar—and they have all continued completely free from mold—while the conditions of excessive humidity and nutrient vapor remain.

Swimming pool surfaces were coated with ABC mortar, and algae have been inhibited; ABC mortar, used on shower and locker room floors, has been credited by certain school authorities with the elimination of a previously current athlete's foot nuisance.

(Summaries of twenty inspections are cited in *Food Engineering* for June, 1952, pp. 58-59.)

Utilization of ABC

While the ABC users were very well satisfied with their masonries, the inspection trips disclosed that the workmanship was, all too frequently, only mediocre. Examples were noted of every conceivable defect: too much water; too little cement; improper choice of aggregate; too little mixing; overworking; improper curing, etc. It was surprising that some of the masonries held up the way they did, considering the manner in which they had been prepared and installed.

The need for a definite pitch to assure good drainage was ignored quite frequently; so was the wisdom of locating gutters and drains to be most serviceable—to keep personnel out of the wet, and to service permanently emplaced equipment. The floor drainage system should be carefully planned, and so should the cement masonry mixing, setting and curing.

DID HE GET THE MILK?

We heard about a lady, the other day, who was suing for a divorce. The basis for her action was the allegation that eighteen years ago her husband went out for a bottle of milk and she hasn't seen him since. Wonder if he got the milk?

ABC should be handled in the same manner as Portland cement. The simple, fully detailed, practical recommendations of the Portland Cement Association (33 West Grand Avenue, Chicago 10, Illinois) obtainable on application, should be followed for both mortars and concretes, substituting the ABC for the Portland type, in the formulas listed for "heavy duty" products.

Not more than 5 gallons of water should be used per sack of ABC, for best results. For covering walls and ceilings and for grouting tile, one part of ABC is to be mixed with two parts of sand, to make a satisfactory mortar; for integral flooring—one part of ABC should be combined with one and one-half parts of sand—except for gutters and drain mouths, where a one-to-one ratio is preferable. For concretes, use one part of ABC to one part of sand to two parts of coarse aggregate.

ABC is more expensive than Portland cement. Two-course construction is more economical than single-slab. If ABC is to be laid over old masonry, the base course must be prepared properly. Follow the directions advocated by the Portland Cement Association with respect to this, and the thickness of the top coating—which depends on the load demands.

Masonry made with ABC will always be protected against microorganism metabolism—but is not designed to "project" its antiseptic beyond its own surfaces. Keep the masonry clear of heavy nutrient or other deposits to permit its sublimation of air-borne contamination. ABC masonries must not be painted; they can be colored by means of compatible pigments added to the cement mix.

Summary

1. The rapid deterioration of concrete floors in dairy plants has been found to be due to the solubilization of cement ingredients by the acids formed through the fermentation of the daily deposited nutrient residues.

2. Antiseptics, made a part of either the cement mix or the completed masonry, retard nutrient residues' fermentation for only limited periods, if at all.

3. A disinfectant, whose chemical characteristics permit it, has been incorporated into cement particles by a special processing method developed and patented by the North American Cement Corporation.

4. This ABC has been made into masonries which have demonstrated prolonged durability, and the permanent sublimation of microorganism metabolism.

5. ABC masonries in dairy plants have required minimum maintenance and repair, have eliminated "floor fermentation aroma," and have reduced air-borne contamination.

Better Dairies Everywhere Are Switching to
HAYNES SNAP-TITE NEOPRENE GASKETS
for Sanitary Fittings
Order through your favorite jobber.

Biochemist Honored by Dairy Shrine Club for Nutrition Research

Dr. E. V. McCollum, Emeritus Professor of Biochemistry, Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland, was honored by the dairy industry last month for his work in the discovery of vitamins A, B, and D.

The ceremony was held at the national home of the Dairy Shrine Club in Waterloo, Iowa. The Dairy Shrine Club is an organization devoted to honoring great dairy men of the past; recognizing great dairy men of the present; inspiring dairy leaders of the future; and recording the part played by these men and others. Almost 1,000 men from all phases of the dairy business are members of the club.

Vitamin A, found naturally in butterfat, is essential to the life process at all of its stages. McCollum's work in the broad field of human nutrition, especially in the chemistry and clinical effect of vitamins, has contributed much to the health of the world's millions, according to nutritional authorities.

Eight Others Recognized

Also honored at the ceremony were eight men, now deceased, who were selected as having made significant contributions to the progress of dairying. The achievements of these men cover the invention of the first glass milk bottle, the establishment of milk pasteurizing depots, the discovery and control of "Bang's disease," the development of the modern dairy barn, better animal breeding, and the quality control of butter.

At the ceremony it was reported that Dr. McCollum was the first to discover that edible fats were not all alike—that butterfat contained something which sustained life and promoted growth in laboratory animals when other fats failed. This "something" was first called *Fat Soluble A* by Dr. McCollum. This was in 1912. Later the substance was called *vitamin A*.

Eight men, now deceased, were honored as "pioneers" by the Dairy Shrine Club. Along with the unveiling of a portrait of Dr. McCollum, portraits were unveiled of: D. D. Aitken, former President of the National Holstein-Friesian Association of America; Dr. B. Bang, first to identify B. Brucella Abortus, 1897; Guy E. Harmon, outstanding as a breeder of dairy cattle; A. A. Lilly, a breeder of Brown Swiss, member of the Board of Directors of the Brown Swiss Breeders Association, 1910-1937. William Louden made major and pioneer contributions in developing today's modern dairy barn; A. J. McGuire, an extension educator at University of Minnesota, helped organize Land-O'Lakes Creameries; Nathan Straus, established first pasteurizing milk depots in New York State in 1893; Harry D. Thatcher, invented glass milk bottle, 1884, and was a strong leader in industry activities.

The annual meeting of the Dairy Shrine Club was presided over by W. A. Wentworth, President.

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The Gallon Jug Moves Ahead in Ohio

After More than Ten Years of Successful Operation in Akron The Lawson Milk Company Has Moved In on Cleveland

By NORMAN MYRICK

The Lawson Milk Company of Akron, Ohio, with its gallon jugs and corner milk stores, continues to defy the laws of economics and the established pattern of milk distribution. After more than ten years of volatile activity marked with violence, vituperation, and growth, the company has demonstrated its ability to process and distribute milk in gallon jugs at a lower price than anybody else in Ohio and possibly in the United States.

Challenge after challenge has been hurled at Lawson. Effort after effort has been made to meet the gallon jug competition. It was believed that introduction of a federal order would put the company out of business. It was thought that the surplus problem would catch up with the firm. It was believed that union labor in a strongly union town would defeat a system using non-union labor. Despite all of these hazards, Lawson Milk Company has driven relentlessly ahead.

Today the company is the dominant factor in the milk business in Akron. It has established stores in every neighborhood in the city. It has expanded its operation into Cleveland. It has met and exceeded every competitive producer price. It has captured approximately 50 per cent of the fluid milk business in an area with a population of 400,000 people. It has pushed the price of retail home delivered milk down to the point where it is *below the wholesale price anywhere else in the State*. It has thrown the Akron milk industry into despair. It has created consternation in Cleveland. It has, in fact, challenged the entire fluid milk industry. It sells milk at 54 cents a gallon in Akron, at 67 cents a gallon in Cleveland and thrives on it.

How does the Lawson Milk Company do it? To be perfectly candid about it, we do not know. Furthermore, nobody else knows except the people at the Lawson Milk Company and they aren't talking.

The system of distribution employed by the Lawson Milk Company is simple. Up to the loading platform, the technique follows the usual procedures of modern milk handling. From the platform out the method is radically different. Milk is packaged in gallon and half-gallon glass jugs. It is loaded into trucks and delivered to Lawson stores scattered throughout the city. These stores are controlled by the company either through franchises or outright ownership. They are open every day from 8 o'clock in the morning until 10 o'clock in the evening. The stores handle other foods such as ice cream, bread, cold cuts, and some other merchandise found in grocery stores. Some of these items such as bread, ice cream, and candy are distributed by the Lawson company in addition to milk. For handling the milk, the storekeeper gets a commission of between 8 and 11 per cent. This commission is included in the retail store price of the milk.

The stores operate on a cash and carry basis. A deposit of about 25 cents is required on the jugs, but once the initial deposit has been made that is the only deposit required unless the jug is lost or broken. The customer brings back the empty and takes out a filled jug, the empty becoming the deposit on the new jug.

They Are Doing It

Milk handlers may not like the Lawson system. They may not like the Lawson attitude. They may feel sorry for the rest of the industry in Akron and be complacently smug about their own ability to meet this type of competition. The fact remains that the Lawson Milk Company is buying milk from producers under a federal order for 48 cents a gallon, is selling it to the public at a store price of 54 cents a gallon, and is paying the storekeeper 5 cents a gallon commission. That leaves the Lawson people one cent a gallon for all processing, distribution, and overhead costs. Veteran milk handlers say it can't be done. The Lawson company says it can be done and is doing it. If the Lawson company can do it, then other operators can do it. If other operators can do it, then every market in the country, except a few that are protected by legislation, is wide open to the kind of devastating competition that has changed the face of the industry in Akron.

A number of explanations of the Lawson Company's ability to sell at low prices have been offered. At one time it was believed that the secret lay in buying at a blend price and selling at a Class I price. This was given considerable credence by Lawson activity in defeating a proposal for a federal order. As far as we know, it is one of the few times that a proposal for an order, introduced by producers, has been defeated. There is not much question that it was the Lawson activity among the producers, the company's success in convincing producers that they had a better deal

A NEW AMR FEATURE

Beginning in December, the *American Milk Review* will carry a new feature page for routemen. The page will be based on interviews with routemen, will attempt to find out their views on the business of distributing dairy products, will serve as a clearing house for ideas, and will give recognition to men who have done an outstanding job on their route. The page will also carry contributions by routemen. Please call this to the attention of your sales force and urge them to express their views.

with Lawson under existing conditions than they would have under a federal order, that brought about the defeat of the proposal. However, when the Lawson company went into the Cleveland market in June of this year the firm came under the Cleveland order. Consequently, today the Lawson company is accountable for the milk it handles on a use basis. This has, as yet, made no difference in the customary low retail price. It is still 54 cents in Akron and 67 cents in Cleveland.

Another theory offered argued that milk was used as a loss leader. It was maintained that a slight loss in milk was made up by higher costs of other goods sold in the stores. To test this theory a producer group in Akron made a series of purchases in Lawson stores and a series of similar purchases in other stores. The cost of the merchandise in the Lawson stores was greater than the cost of the merchandise in regular grocery stores. Within the last two months, however, a representative of some independent dealers in Akron made a series of ten purchases in Lawson stores and a series of ten purchases of identical goods in a supermarket. When added up, the bill showed a small difference in favor of the Lawson stores.

A third possibility concerned the non-union character of Lawson employees. It was believed that large loads and freedom from hampering union regulations enabled the Lawson Milk Company to develop efficiencies denied to other companies with union contracts. Although there may well be some economies in Lawson's open shop, they do not appear to be sufficient to explain how the company can process and distribute milk, pay the overhead and still make a profit of a quarter of a cent a quart.

The Over-all Operation

The most reasonable explanation that we have heard suggests that the Lawson operation, embracing ice cream, dry milk, and fluid milk is profitable as a whole although one phase of it taken by itself may be unprofitable. That is another version of the loss leader idea. What is lost on fluid milk is made up on ice cream and dry milk. This is purely speculation, however. Shortly after the Readers' Digest published its famous article entitled "The Jug That Jinxed High Milk Prices," Dr. C. W. Pierce of Pennsylvania State College conducted a study of the Lawson system. He reported that as far he could ascertain, the Lawson Milk Company was operating at a profit. Certainly the record of the company, operating for more than a decade and continually expanding, does not give the impression of a losing proposition.

The latest explanation of how the Lawson Milk Company does it involves Cleveland. There is a 13-cent differential between Cleveland and Akron. Milk is processed in the Akron plant and distributed in both Akron and Cleveland from that plant. The price is 54 cents in Akron and 67 cents in Cleveland. Some dealers involved in the situation feel that there is a sufficient volume of Lawson milk going to Cleveland at 67 cents to subsidize the 54 cent Akron milk. Again this is speculation. About all that is known is that when the Lawson Milk Company went into the Cleveland market, even though the stores number only 13 at the moment and are on the outskirts of the city, it was enough to throw the market into an uproar.

It has been reported that a number of Cleveland dealers have gone into paper half gallons as a result. Some dealers attempted to meet the threat by setting up rival cash and carry stores wherever a Lawson store opened. This has not met with much success. The Lawson stores have flourished while the rival stores have not. One of the most remarkable aspects of the Lawson story is the customer loyalty that the name generates. If it is a choice of a Lawson store or another store, other things being equal, customers favor the Lawson Milk Company.

Increasing Competition

One of the reasons for the Lawson Milk Company's move into Cleveland was undoubtedly the increasing competition on a price basis from firms in Akron. Home delivered milk in Akron sells for 18 cents. A discount plan is in operation that brings the price down to 17 cents on quantity purchases and in some cases down to 16 cents. Akron dealers say that they are taking business away from Lawson at this price level but the trouble is they are losing their shirts in the process. There has not been a price increase in Akron for more than a year. On the other hand there have been several producer price increases. The Akron dealers, particularly the independents are caught in the big squeeze.

Bordens, National Dairy, and the Isaly chain have elected to match Lawson price for price. Bordens and National Dairy do it by making milk available to stores at a price that enables them to meet Lawson. The Isaly chain has gone the Lawson people one better and is offering milk for 53 cents a gallon. All of these organizations have outside backing, however, and can stand price competition that, to the independents, means ruin.

Some of the independents have already fallen by the way. In the Akron area only six independent milk dealers are still in business. One independent has folded each year for the past 3 years.

The Akron case offers a most remarkable study in consumer psychology. Milk is cheap in Akron. It is the cheapest milk in the State of Ohio. There is a difference of four cents between home delivered milk in Akron and the same milk in Cleveland a few miles away. Consumption, however, is not high. It is often argued that the price of milk is excessive. Yet in the Akron area, where extremely low

PREVIEWS OF NEXT MONTH

One of the feature articles in the December issue will be "The Challenge of Vegetable Fats." This article explores the use of vegetable fats in the manufacture of frozen desserts which simulate ice cream. Also, the use of vegetable fat to replace butterfat in milk is in the experimental stage. The problem of use of vegetable fats as a substitute for butterfat in ice cream is most prominent in Texas, Missouri, and Illinois.

"Soups, Salads, and Desserts" by a well-known authority on cooking will be about low cost meals in which milk and milk products play a major role.

Of course you will see "Accounting for Profit," and the other regular features, too.

milk prices prevail, a low rate of per capita consumption also prevails.

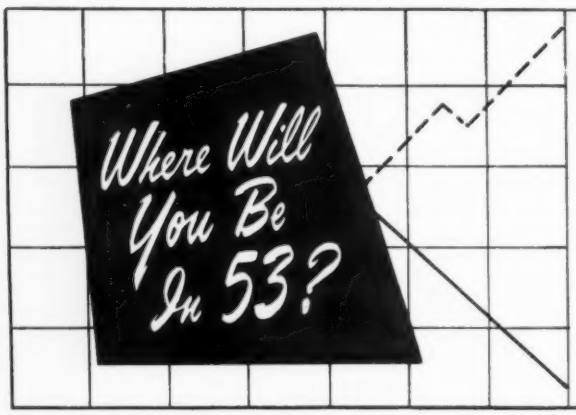
The most logical explanation for this condition lies in the "war" which has gone on for more than ten years. The gallon jug has been contested bitterly. The Lawson people have promoted the jug just as vigorously as it has been contested. A major facet of this promotion has been an advertising program that attacked other milk dealers. These attacks have been frequent and have invariably cast the Lawson Milk Company in the role of hero and the other Akron distributors in the role of villain. Some pretty high-powered invective has decorated the Lawson ads in the newspapers. After ten years of this kind of propaganda, a large number of people have become Lawson customers. The significant development, however, is that another large group of people have apparently been convinced that the milk business is the last refuge of thieves and scoundrels. They have said, "A plague on both your houses."

While the Lawson Milk Company has been gaining customers, the general market has been losing ground. It is a convincing demonstration that, while price is important in consumer acceptance, it is not the only factor or even the most important one. If you tell people long enough that the "forces of greed" and "the milk monopoly" are robbing them blind, they will begin to believe you. But instead of switching their business to the knight in shining armor, they switch to some other product and give up milk.

Divide and Conquer

There has been a tendency on the part of milk dealers outside of the Akron market to look at the problem and shake their heads. They are sorry for Akron dealers, a little scornful of their failure to meet the jug competition, and quite smug about their own ability to take care of themselves. Cleveland was that way. The gallon jug was strictly an Akron headache. If it came to Cleveland, its wheel would be fixed in short order. The gallon jug has come to Cleveland and the result has been a wild scramble for new equipment, new containers, new stores, new price schedules, all with no noticeable effect on the Lawson Milk Company. The Lawson stores continue to sell milk at 67 cents and more of them are opening up each month. Cleveland dealers are not inclined to look on the Lawson method of milk distribution with quite the complacency they did six months ago.

The facts are that the Lawson Milk Company has been selling low-priced milk in gallon jugs for a long time. The company has grown steadily year after year. It has consistently paid producers the highest blend price in the market. At the moment it is absorbing producer costs for the federal order, as well as its own share of order costs. It has pushed the retail price of milk in Akron down to 18 cents for home delivered which is below the existing wholesale price in every other market in the State. It has brought the independent dealers in Akron to the end of the line. It has created an astonishing customer loyalty. It has tagged its competition with an unsavory label and made it stick. It has kept the market in a constant state of disruption and completely baffled the opposition. It has taken on the biggest organizations in the business and made them dance while it called the tune. It has operated in a strongly union area with non-union labor. It has won the confidence of producers and beaten every attempt by organized labor to bring it to heel. It has operated successfully without a federal order and with a federal order. It has won support of the Akron newspapers as well as national publications. It has made itself the darling of public servants with an eye for the vote generating properties of low-priced milk. It has maneuvered itself into such a position of strength that no administration local, state, or possibly even federal cares to monkey around with it. It has brought revolution to Akron, disorder to Cleveland, and worry to Cincinnati. It has clawed its way to the top against formidable opposition. It has done all of this on margins so small and prices so low as to be ridiculous except for the fact that they are real. If the rest of industry thinks the gallon jug and corner store is a flash in the pan, then the rest of the industry does not know dynamite when it sees it. These Lawson people play hard and they play for keeps. That, brother, is all. All, except that the Lawson Milk Company is building a new million dollar plant in Cleveland and plans to open 200 stores along with it.



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WANZER BUYS SALLY'S ICE CREAM COMPANY

Sidney Wanzer & Sons, Inc., have purchased the business of Sally's Ice Cream Company. Operations were consolidated during the month of October into the Wanzer ice cream plant located at 29 East 114th Street in Chicago. Wanzer has been in the ice cream business at this location for some 25 years but distribution was confined to the area lying south of the Loop. This acquisition will enable Sidney Wanzer & Sons, a ninety-five year old milk company, to maintain city-wide wholesale ice cream service.

Walter Ehrmann will continue as manager. Charles Wetzel, sales manager, and Oscar Higgie, production manager, are both formerly of Sally's.

●

NEW COMMAND AT FAIRMONT'S GRAND ISLAND PLANT

Neil R. Baker, formerly manager of the Central Division of Fairmont Foods Company, has moved from Columbus, Ohio to take charge of the firm's plant at Grand Island, Nebraska.

Mr. Baker, who started with the Fairmont Foods Company in 1913 at Crete, Nebraska, has worked for Fairmont at Columbus, Ohio for the past 27 years. While there, he was widely known in Ohio and adjoining state dairy circles. He served as President of the Columbus Convention Bureau, President of the Manufacturers and Wholesalers Association of the Columbus Chamber of Commerce, and Treasurer of the Columbus Tuberculosis Society.

●

CHARLES L. DRESSEL DIES

Charles L. Dressel, retired president of the Chicago Milk Division and former chairman of the Chicago-Central District of The Borden Company, died September 24 in Miami, Florida. He was 59 years old. He had been in ill health for the past two years.

Born in Columbus, Ohio, Mr. Dressel entered the milk industry as a driver for the McGowan Dairy Co. in that city. He became a partner in the company, and when it was purchased by the Moores & Ross Co., he continued with the latter organization as a milk and ice cream salesman for the wholesale trade.

Later transferred to Zanesville, Ohio as branch manager for Moores & Ross, he returned to Columbus ten years later a vice-president of the Ohio-Indiana Division when The Borden Company acquired the Moores & Ross operation.

In 1935 he was transferred to Chicago as president of the Borden-Wieland operation, which is now The Borden Company, Chicago Milk Division. He continued in that post for 13 years, until 1948, when he became chairman of the Chicago Metropolitan District, now known as Borden's Chicago-Central District.

Mr. Dressel's retirement from The Borden Company became official on July 1, when he ended a semi-active status in an advisory capacity with the Chicago-Central District. He moved to Miami this spring, where his sons operate a dairy business.

He was a member of the Dairymen's Country Club. He is survived by his wife, Ann M. Huff Dressel, and two sons, Charles L., Jr., and Richard L. Dressel.

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When you use Solvay ANCHOR ALKALI, you add a bright sparkle to your bottles . . . you eliminate specks, spots and dulling film. Because ANCHOR ALKALI has special rinsing properties, this high-efficiency bottle washing cleanser does a "perfect" job—leaves your bottles glistening-clean and sterile! And it's more economical because consumption per unit number of bottles washed is really low. Be sure to specify Solvay ANCHOR ALKALI.

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Accounting for Profit

by M. J. Kluger

— Cost Accounting —

IN THE October issue of the *Review* I outlined the beginning of a cost finding set-up for fluid milk dealers, requirements of such a system and in response to many requests on the subject. We ran through the basic requirements of such a system, and touched on the procedures involved. In this issue, I will attempt to narrow down those procedures into specific points.

We had arrived at a point wherein costs are to be collected by four divisions or departments or processes: receiving, pasteurizing, packaging, storage. We need, therefore, an expense ledger set-up to provide for collecting costs by process. In practice, it's quite simple. A columnar ledger, as shown in Table I, will do nicely:

TABLE I.

PASTEURIZING DEPARTMENT

Date	Ref.	Depreciation $	Rentals $	Repairs $	Labor $	Power $	Supplies $	etc. $

TABLE II.

Expense	Receiving	Pasteurizing	Packaging	Storage
Bottles, caps			direct	
Equipment Depr.	direct	direct	direct	direct
Build. Depr.	direct	direct	direct	direct
Labor	direct	direct	direct	direct
Supervision	pro rata	pro rata	pro rata	pro rata
Supplies	could be either direct or pro rata, depending on nature			
Payroll taxes	direct on direct labor charges, pro rata on other labor costs			
Insurance	could be direct or pro rata, depending on nature			
Product	direct, depending on how accounted for at various points			

All costs which can be directly charged to pasteurizing are so charged. The aim is to effect as few re-distributions as possible, that is, to make departmental charges directly from source data at the outset. For the most part, this may be readily done. Equipment depreciation, equipment rental, labor, taxes on payroll, insurance, building depreciation or rent, supplies (to some extent) can all be directly charged to the process affected. Other expenses as power, maintenance and repairs, superintendent's salary, may have to be pro-rated on a pre-determined base. An illustrative classification, though not an all-inclusive one, might be as shown in Table II.

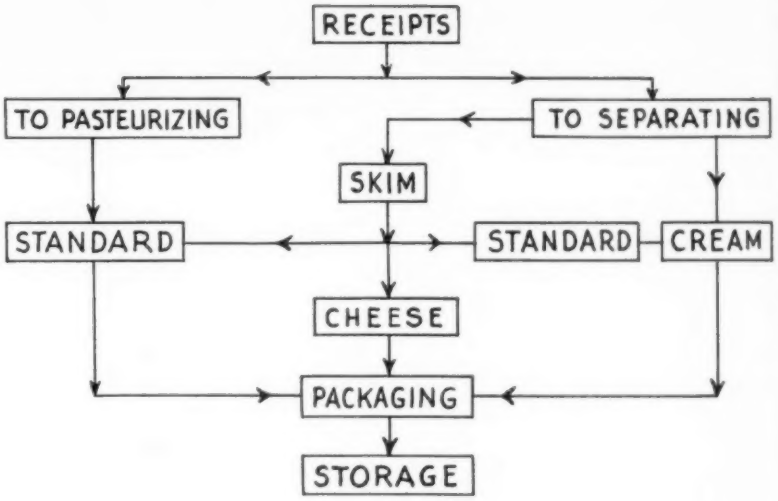
Where Pro-ration Is Necessary

Where pro-ration (re-distribution) is necessary, an expense is first collected in an inclusive, non-process account, such as "superintendent's salary." From there, it is distributed to the processes on a pre-determined base or plan. That base could be any of direct labor hours, direct labor dollars, processing hours. Supplies such as cleaning compounds, lubricants, which are not directly allocable, could be re-distributed on the basis of process hours. The end desired is to wind up with all overhead charged to the four processes so that nothing is left to be absorbed as a "general miscellaneous" or some other such expense. The best base for re-distribution of an expense will depend on such factors as size of plant, plant layout, division of labor, variety of products and the like.

The accounting for raw product is something else again. The easiest way to account for it is by over-all yields of finished product in each category. But, losses or shrinkage always show up which cannot then be assigned to the process and product to which they belong. If a loss remained nominal, it wouldn't matter very much anyway, but very often it does not. On the

other hand, it is decidedly difficult to measure process inputs with any degree of accuracy in any continuous flow system. In accounting for costs, the problem is to measure (1) daily receipts, which is easy; (2) quantities to separation, which may or may not be difficult; (3) yields of cream and skim from separation, which should not be too difficult; (4) skim to standardizing, which may or may not be difficult; (5) standardized milk and cream to bottling, which is usually not easy to measure; (6) packaged products to cooler, which is quite easy to measure; (7) skim to cheese, quite easy; (8) cheese yields, quite easy; and finally (10) product load-outs, which must be measured in any event. Incidentally, between the receiving operation and packaging, the catch-all "pasteurizing" covers and includes clarification, separation, standardization, pasteurization, cheese manufacture. These functions could easily be separated and separately accounted for, but it is problematical as to whether the results would justify the extra bookkeeping.

We may, at this point, construct a *cost* flow chart, somewhat as follows:



Assume, now, that 1,000,000 pounds of raw milk are received from farmers. Of that volume, 800,000 pounds of skim disappeared in the milk, and 200,000 pounds are separated into 20,000 pounds of heavy cream, and 175,000 pounds of skim. We know at this point that 5,000 pounds of skim disappeared in the separation process somehow. Of the available 175,000 pounds of skim, 20,000 are used to standardize cream to 20% and the balance, 155,000 pounds are made into 20,000 pounds of cheese. At a theoretic yield of 7 to 1, 15,000 pounds of skim were lost or wasted in making cheese. Assume 4% milk received, pasteurized, separated, at a price of $6.00 for class I and $4.00 for class II, with a butterfat differential of 8c per point plus or minus 4%. The product cost (direct

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*Standard features, extra cost on most other makes, included in low list price.

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On Chevrolet, Dodge, Ford or GMC Flat Face Cowl Chassis

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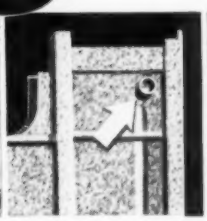

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materials cost) would be calculated and allocated as follows:

Fluid milk	800,000 lbs.	$6.00	$48,000
Fluid cream	40,000	16.80	6,720
Cheese—input	155,000	.80)	
yield	20,000	.062)	1,240
Separation loss	5,000	.80	40
Total	1,000,000	$5.60	$56,000

The separation loss, $40, would be assigned to cream and cheese in the proportion of raw product used in each, *viz.*, 40,000 pounds and 155,000 pounds respectively. Final determined costs are thus:

Fluid milk	$48,000	12.90c per quart
Fluid cream	6,728	35.79c per quart
Cheese	1,272	6.2c per pound
Total	$56,000	12.04c per quart

The cost of the 15,000 pounds skim lost in cheese making was automatically absorbed in a finished product, cheese, in these calculations. Thus, the two sustained losses, 5,000 pounds in separation and 15,000 pounds in manufacture were localized and assigned specific products. When losses cannot be localized, they would be allocated on a product yield basis adjusted for theoretic inputs. In the illustration, 20,000 pounds were lost in total. Allocation would be:

Product	Inputs	%	Loss Allocation
Fluid milk	800,000 lbs.	82	$131.20
Fluid cream	40,000	4	6.40
Cheese	140,000	14	22.40
	980,000	100%	$160.00
Loss	20,000		@ 80c $160.00

●

A. C. MOHR JOINS SEYMOUR

Arthur C. Mohr has been appointed General Sales Manager of the new Specialty Products Division of The Seymour Packing Company, processors of the nationally known Consort Brand of egg and poultry products.

Mohr's years of successful sales management of the Corn Products Department of Anheuser-Busch, Inc., St. Louis, Mo., admirably qualify him for the direction and organization of the new sales expansion program of The Seymour Packing Company. Fields to be explored will be in newly developed egg products, dried and frozen, particularly adaptable for usage in the confectionery, food and textile industries, according to Jay G. O'Dell, Executive Vice-President of Seymour.

WESTERN STATES DAIRY CONVENTION PROGRAM

The Western States Dairy Convention dates have now been definitely set for December 7th, 8th, 9th, and 10th in Denver at the Cosmopolitan Hotel, it was announced by Ward K. Holm, Executive Secretary of the Colorado Dairy Products Association. An extra day has been added to this year's convention schedule and will be devoted to accounting problems. Also on this extra day Denver dairies will have open house and show off some of the finest processing facilities in the west.

As last year, the convention will kick off on Sunday with a buffet supper and an evening of entertainment and fellowship.

●

TOM CROW JOINS KENT

Tom Crow, for many years associated with Crow Brothers Poultry of Letart Falls, Ohio, has now joined Kent Industries, Inc. of Chicago.

Crow will assist in coordinating Kent installations and plant layouts, and will work in the Eastern and Northeastern sections of the country.

THE NEW Kendall RETURNLINE CAN WASHER

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★ Partition separates cleaning from sterilizing stations.

★ Saves costly space.

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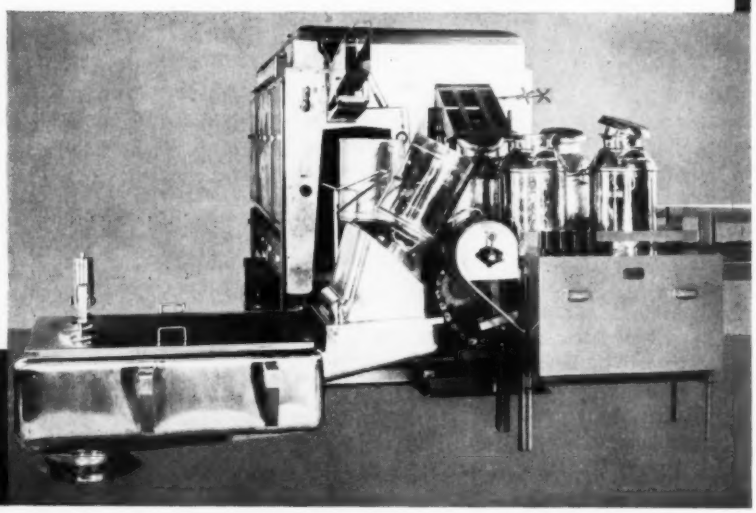

KENDALL-LAMAR CORPORATION
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NEW YORK CITY GETS DAIRY COUNCIL UNIT

PAULINE MURRAH, Program Director

A National Dairy Council nutrition education program to increase fluid milk consumption has been launched in New York City, the world's largest market area, Milton Hult NDC president, has announced.

The program is producer-sponsored through funds from the New York State "Milk for Health" program and will be operated by the National Dairy Council under the guidance of the Greater New York City Milk Producers' Dairy Council Committee.

For the first few months of the program, a staff of 8 or 9 persons will be maintained. During this period, an educational program staff and a professional program staff, working under Miss Murrah, will ascertain the extent the program can be directed toward the almost 8 million consumers living in the five boroughs which comprise the Metropolitan New York area. As the program develops, a larger staff of trained persons will carry out a series of project aimed toward New York professional groups such as physicians, dentists, city health officials, and dietitians.

The public school teaching groups will be contacted. Through education leaders, NDC educational materials will be made available to thousands in grade and high schools. Use in the classroom of these materials guarantees the communication of a better understanding of the dairy industry and a greater appreciation of the nutritional values of dairy foods to millions of individual family groups. NDC materials have been doing this job in behalf of the dairy industry in affiliated dairy council areas for many years.

Members of the Greater New York City Milk Producers' Dairy Council Committee are: President, Elmer McCann, Chateaugay, New York; Vice-President, Clarence Little, Sussex, New Jersey; Secretary, John B. Holloway, Amsterdam, New York. Other members; Morelle Cheney, Bemus Point, New York; R. P. Kinney, Amenia, New York; Orrin Ross, Lowville, New York; Preston Erway, Genesee, Pennsylvania; John Roebuck, Walden, New York; Jake Pratt, Schaghticoke, New York; and C. F. Handy, Milk for Health, Inc., Ithaca.

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Keep ahead of competition by offering your customers the advantages of economical AlumaSEAL hooding. Paper-lined aluminum means more efficient sealing ... greater milk protection. Exclusive AlumaSEAL hinge-open action permits greater convenience in use. The AlumaSEAL hooding unit is simple to operate ... easy to clean and maintain. Available in 51mm, 48mm, and 38mm sizes.
MID-WEST also manufactures the KuverTOP closure, along with a complete line of fine quality disc caps. Ask your jobber.
MICKEY THE MILKMAN says "Advertise home delivery now". Write for series of free newspaper mats promoting home delivery of milk in glass bottles.
MID-WEST
MID-WEST BOTTLE CAP CO.
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This is England. The cans are called churns. The trucks are called vans. The cattle are T-T Red Polls. The raw material, however, is milk.

This is the unloading deck of the "depot." In the space of 4 hours, this plant receives 2,500 cans or churns. The farms are all within a 30-mile radius of the depot. See anything different?

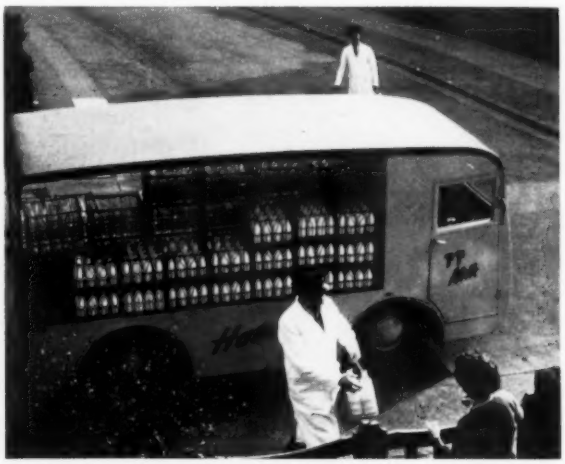
CANS, CHURNS, and VANS but they HANDLE MILK

One hears a great deal in a rather sarcastic vein about socialism in England. We have no brief for socialism, but we have often felt that the picture was somewhat exaggerated. The fact that escapes some of our more vocal contemporaries is the terrible drain that two great wars in the space of 35 years exerted on the stout little island. Two wars, the transition from empire to Commonwealth, and the great social and economic upheaval of our time have had their effect. Nevertheless, the picture story on these pages is the story of a vigorous private enterprise remarkably similar to yours, and yours, and yours.

Hanson's dairy, founded by Hames Hanson, is a large milk business in any language. The Long Lane plant, shown in these pictures, is one of six operated by the Hanson family. This plant processes 60,000 quarts a day. There are some differences in equipment, but basic techniques and purposes are the same as in this country.

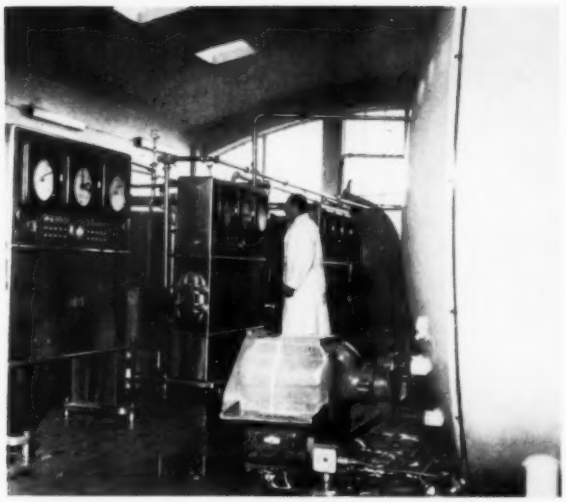
It is not our purpose to seek out differences for the sake of ridicule. Many of the differences may well be something that American dairymen

These are delivery vans. American milk handlers will notice immediately the open character of these trucks. Hanson's uses some 200 vehicles in its operation.



The retail delivery truck, open on three sides, is in startling contrast to trucks used in this country. Wonder what they do about temperature, sunshine, and dust?

That ole debbil bacteria is at work in England as well as in the United States. An outstanding characteristic of this plant is the large number of women employed.

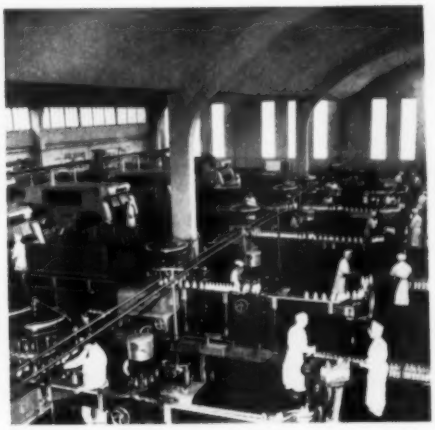


This plant, one of several in the Hanson organization, can handle 6,000 gallons an hour. The equipment is of European manufacture, but American milk processors would probably feel at home with it.

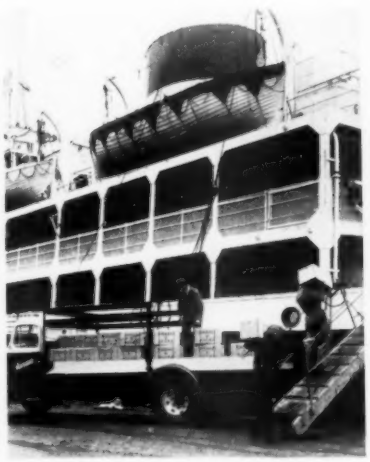
ALL

could profit by. However, for the sake of a little fun, the *American Milk Review* offers a modest prize of ten dollars to the reader of this magazine who sends us the largest list of differences between this operation and a characteristic American operation. Sharpen up your pencils and your eyes. Let's get at it.

This battery of bottle washers bespeaks a large scale operation. Note the unique architecture in the arching ceiling, concrete supports, and windows.



An impressive array of fillers operated by men feeds the bottle conveyor line. Here again the presence of many women workers in the plant is demonstrated.



Much of the milk is exported. Here a load of sterilized milk is being loaded on a ship bound for West Africa.

Hanson's of Liverpool was founded by Hames Hanson. Mr. Hanson, in the foreground, is surrounded by his sons who are, left to right, Bob, Transport Manager, and Les and Jack, jointing managing directors.

CONVENTIONS AND CONFERENCES

Washington State Dairy Foundation — Annual Meeting November 1, at Hotel Vancouver, Vancouver, B. C. A. Frank Bird, Secretary, 808 Skinner Bldg., Seattle.

Michigan Dairy Manufacturers' Conference—13th Annual Conference, November 5-7, at Kellogg Center, Michigan State College Campus. Pre-registration desirable. For reservations at Kellogg Center, write to Dairy Manufacturers' Conference, Continuing Education Service, Michigan State College, East Lansing.

National Milk Producers Federation—36th Annual Convention, November 9-13, Atlanta, Ga. Contact Charles W. Holman, Secretary, 1731 Eye St., Washington 6.

Dairy Technology Conference—Eighth annual conference, November 12, at Dairy Department, University of Maryland. For milk plant operators and employees, milk inspectors and sanitarians and field men. W. S. Arbuckle, Professor of Dairy Manufacturing, Dairy Husbandry Department, University of Maryland, College Park.

New Jersey Milk Industry Association—Annual Meeting, November 12, at Berkeley-Carteret Hotel, Asbury Park, N. J. Bo Adlerbert, Chairman of the Annual Meeting Committee, Sunrise Dairies, Hillside, N. J.

Western States Dairy Convention—The 1952 Annual Convention, December 7-9, at the Cosmopolitan Hotel, Denver, Colo. Ward K. Holm, Executive Secretary, Colorado Dairy Products Association, 701 Kittredge Bldg., Denver 7.

Illinois Dairy Products Association—Annual Meeting, December 15-16, at the Morrison Hotel, Chicago. G. M. Van Buskirk, Secretary, 309 W. Jackson Blvd., Chicago.

Ice Cream Manufacturers' Conference—Will be held January 16 at Rutgers University. Contact Prof. Frank G. Helyar, Director of Resident Instruction, Rutgers University, New Brunswick, N. J.

Dairy Queen National Trade Association—Annual Convention, January 19-21, at the Hotel Roosevelt, New Orleans, La.

National Dairy Council Conference—Annual Meeting, Winter Conference, January 26-28, at the Hotel Deshler-Wallick, Columbus, Ohio.

Ice Cream Conference—Second annual conference, January 31, 1953, at Dairy Department, University of Maryland. For ice cream plant operators and employees and sanitarians. Contact W. S. Arbuckle, Professor of Dairy Manufacturing, Dairy Husbandry Department, University of Maryland, College Park.

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SHORT COURSES

Concentrated Milk Products — University of Wisconsin, November 3-15. Manufacture of non-fat dry milk solids, evaporated milk, dried whey solids, etc. Contact J. Frank Wilkinson, Director of Short Courses, 108 Agricultural Hall, University of Wisconsin, Madison 6.

Soft Ice Cream and Ice Milk—University of Illinois, November 11-12. Compounding and processing of mixes, quality maintenance, and merchandising. Contact R. K. Newton, Superintendent of Conference Division of University Extension, 713½ So. Wright St., Champaign.

Dairy Manufactures—Texas Technological College, November 19-21. General course. Contact J. J. Willingham, Head, Department of Dairy Manufactures, Texas Technological College, Lubbock.

Market Milk — University of Wisconsin, December 1-13. Commercial handling and processing of market milk, cream, buttermilk, and sour cream; laboratory in bacteriological and chemical control. Contact J. Frank Wilkinson, Director of Short Courses, 108 Agricultural Hall, University of Wisconsin, Madison 6.

Ice Cream Course for Dairy Equipment and Supply Men—Pennsylvania State College, December 8-13. Comprehensive course including composition, standardization of acidity, etc., also testing. Contact A. Leland Beam, Director of Short Courses, School of Agriculture, Pennsylvania State College, State College.

Dairy Stores — University of Illinois, December 9-10. Advertising, merchandising, refrigeration, sanitation, packaging technics and problems, training personnel, and management problems. Contact R. K. Newton, Superintendent of Conference Division of University Extension, 713½ So. Wright St., Champaign.

Dairy Manufacturing—Michigan State College, eight weeks, January-February. Includes bacteriology, dairy products judging, butter and ice cream making, market milk processing, creamery mechanics, and practical creamery tests. For details, write to Director of Short Courses, Michigan State College, East Lansing.

Testing Milk, Cream, and Dairy Products — Pennsylvania State College, January 5-10, 1953. Contact A. Leland Beam, Director of Short Courses, School of Agriculture, Pennsylvania State College, State College.

Ice Cream Making—Rutgers University, January 5-15, conducted by Dr. Joseph G. Leeder, Associate Professor of Dairy Manufactures, New Jersey State University. Contact Prof. Frank G. Helyar, Dir. of Resident Instruction, Rutgers University, New Brunswick.

Ice Cream—University of Wisconsin, January 5-17. Commercial handling and processing of cream, ice milk, etc.; mix calculations and laboratory control. Contact J. Frank Wilkinson, Director of Short Courses, 108 Agriculture Hall, University of Wisconsin, Madison 6.

Ice Cream Course for Plant Men—Pennsylvania State College, January 12-24. Regular course in ice cream making. Contact A. Leland Beam, Director of Short Courses, School of Agriculture, Pennsylvania State College, State College.

Milk Testing—Rutgers University, January 19-23, conducted by Dr. Samuel A. Lear, Assoc. Prof. of Dairy Manufactures. Contact Prof. Frank G Helyar, Dir. of Resident Instruction, Rutgers University, New Brunswick.

Fourth Annual Ice Cream Short Course — University of Maryland, January 19-30. Technical and practical training for ice cream plant employees. Contact W. S. Arbuckle, Professor of Dairy Manufacturing, Dairy Husbandry Department, University of Maryland, College Park.

Market Milk and Milk Supervision—Pennsylvania State College, January 26-February 7. Testing license examination at conclusion of course. Contact A. Leland Beam, Director of Short Courses, School of Agriculture, Pennsylvania State College, State College.

Elementary Ice Cream Making—University of Massachusetts, January 26-30. Contact Director of Short Courses, University of Massachusetts, Amherst.

Advanced Ice Cream Making—University of Massachusetts, February 2-6. Contact Director of Short Courses, University of Massachusetts, Amherst.

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NATIONAL DAIRY PLANS BIG CAPITAL EXPENDITURE IN '53

National Dairy Products Corporation is planning capital expenditures of $22,000,000 in 1953, according to E. E. Stewart, president. The plans were outlined to the Board of Directors who met in Atlanta in connection with the opening of the new Kraft Foods Company plant in nearby Decatur, Ga.

"This budget provides for additional machinery to lower production costs, trucks, refrigerated cabinets and expenditures for regular replacements," Mr. Stewart said. "In addition, two new plants are being studied for consideration at a later date. Including previous expenditures, this brings to $20,000,000 National Dairy's capital expenditures since the end of World War II."

SELL YOUR COMPANY'S ADVERTISING

By Frank Gray

MANY SALESMEN take a rather skeptical attitude toward advertising. It is human nature to over-emphasize one's contribution to the marketing picture, and salesmen often feel that since the majority of business is closed by personal solicitation, why spend the money on advertising.

It is true that advertising seldom brings in a volume of direct business except for certain articles which are sold via coupons. It is also true that some businesses have been built without the benefit of advertising. Hershey Chocolate Corporation is an outstanding example. Hershey chocolate bars have been sold around the corner from everywhere for many, many years, and are still a standard item on every candy counter—yet the company has never done any general advertising.

In considering an example such as this, however, we must admit that they are the exception rather than the rule. Hershey began distributing when national advertising was not used as it is today, and when five-cent candy bars were a novelty. Having established wide distribution, this manufacturer has held market position by strict adherence to quality.

For every firm which has prospered without advertising, we can name dozens which have died from lack of it and hundreds which have prospered because of it. Rather than regard advertising as a substitute for personal selling, it should be regarded as the power which eases and emphasizes the work of salesmen.

For one thing, advertising puts the firm's story in writing. It establishes the company as responsible and its products as standard brands. The net effect of this publicity is to give the salesman prestige in the eyes of his customers and prospects.

The salesman is effective to himself and to his company only when he is face to face with his prospect. His efforts are limited by time and energy. He is at a definite disadvantage when called upon to explain who his company is and what his product is. Any salesman who has ever tried to sell unadvertised merchandise is well aware of the sales resistance aroused by the new and unfamiliar.

Another thing that advertising does for the salesman is to present selling messages between his calls, keeping the customer reminded of him and his products when he may be at the other end of the territory. It confirms in writing what he has conveyed in words, and reminds customers and prospects to place orders in his absence. Advertising also helps create consumer demand, which is reflected in profitable turn-over for jobbers and dealers.

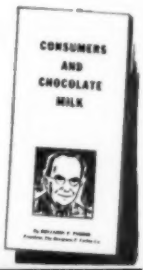
For these reasons it is to the advantage of every salesman to gear his efforts to his company's advertising—to use it as a correlated tool of selling—to bring it to the attention of customers consistently.

Nowadays you can't fool kids, or grown-ups either. They insist on a REAL CHOCOLATE flavor. It must be mild and smooth in texture. The days of heavy, built-up synthetics that "taste like chocolate" are gone.

If you are not entirely satisfied with the flavor of your present product—FORBES, with over 50 years experience in making chocolate products of superior quality, may be able to help you produce a tastier and better chocolate drink. Write for a sample.

IT'S FREE!

Here's a folder you'll want to read. It tells you how to make a real chocolate milk drink, that brings customers back for more. Use the coupon for your FREE copy.



Quality First Forbes

The BENJAMIN P. FORBES CO.
2000 WEST 14th ST. • CLEVELAND 13, OHIO

MAIL THIS COUPON TODAY!

The Benjamin P. Forbes Co.
2000 West 14th Street,
Cleveland 13, Ohio

☐ Please send us your folder: "CONSUMERS AND CHOCOLATE MILK"

Send us a sample of FORBES Chocolate Flavor Powder.

☐ Sweetened ☐ Unsweetened

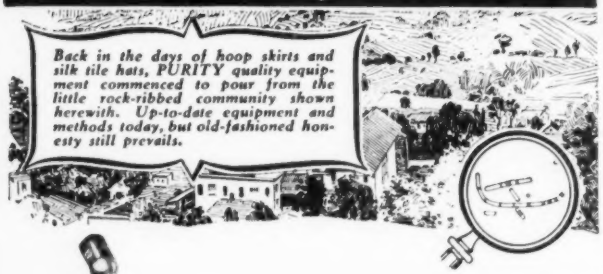
Name.....

Company.....

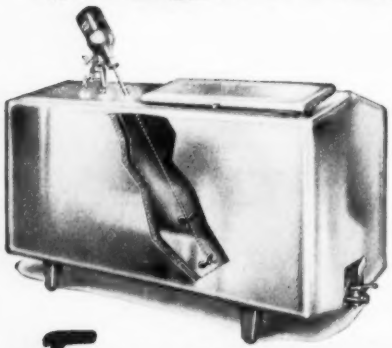
Address.....

City.....Zone.....State.....

CATTARAUGUS
Home of Jack the Giant-Killer!



Back in the days of hoop skirts and silk tile hats, PURITY quality equipment commenced to pour from the little rock-ribbed community shown herewith. Up-to-date equipment and methods today, but old-fashioned honesty still prevails.



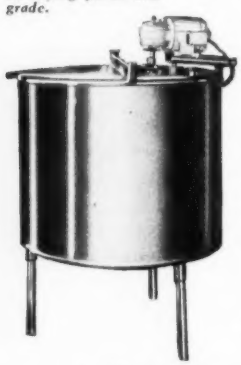
Bacillus tuberculosis —giant among milk-borne diseases. . . . PURITY slaughters 'em.

PURITY Solid Stainless Steel Round-Corner Rectangular Storage Tank is a beauty. Skillfully engineered battleship construction and rapid, thorough agitation.

FROM COW TO CUSTOMER

IN these days of keen milk plant competition, it's a fact that the quality of your finished milk product is nothing less than the sum-total of processing steps all-along-down-the-line. If you're seeking the favor of that hard-to-please connoisseur, Mrs. Housewife, then a PURITY Solid Stainless Steel Storage Vat or Ice Cream Flavor Mix Tank, like those shown herewith, may be just as important to you as any other part of your plant equipment.

PURITY Ice Cream Flavor Mix Tank; speedy, sturdy, sanitary and efficient. Assures a steady flow of unvarying flavor and grade.



PURITY Milk Processing Equipment is built to give perfect handling all the way from Cow to Customer. Years of successful manufacturing background, and thousands of pleased customers to recommend it. It's surely something to tie to; and you can buy it with your eyes shut, as a lot of other milk plants are doing, and be right-side-up-with-care every time — *just try it, and see!*

It will pay you to investigate before you buy— write for bulletins of the complete PURITY Line.

PURITY
Manufacturing Company, Inc.

MILK HANDLING MACHINERY & EQUIPMENT
Oakes & Burger, Inc., Sole Distributors
CATTARAUGUS, N. Y., U. S. A.
EST. 1873 Over seventy-five years of honest equipment

BEATRICE FOODS SALES AND NET PROFIT HIGHER

Sales and net profit of Beatrice Foods Co. for the second quarter and for the first half of the company's fiscal year were ahead of last year, according to William G. Karnes, president.

Net profit of $831,756 for the quarter ended August 31, was equivalent after preferred dividend requirements to 76 cents a share on 1,038,980 shares of common stock outstanding. This compares with net of $790,135 and 73 cents a share on 1,023,769 shares of common stock outstanding for the same period last year.

For the six months ended August 31, net profit amounted to $1,387,279, equivalent after preferred dividends to $1.26 a share, compared with $1,344,540 and $1.23 a share for the same period of last year.

Sales for the quarterly period ending August 31 amounted to $61,884,655, an increase of $1,184,709 or 1.9 per cent over sales of $60,699,946 for the same quarter last year. Sales of $118,011,243 for the six month period compare with sales of $115,419,288 for the corresponding period a year ago, a gain of 2.2 per cent.

Due to favorable weather conditions during the summer months in most parts of the country, unit ice cream sales were higher than last year and ice cream profits improved over the previous year, Mr. Karnes stated. Butter department profits also were higher during this period than a year ago.

●

ICE CREAM INDUSTRY SETS DATE FOR 1953 FESTIVAL

The starting date for the annual nationwide Ice Cream Festival for 1953 was announced jointly today by the American Dairy Association and the International Association of Ice Cream Manufacturers. The big merchandising mobilization will get under way June 15 and carry through the summer to coincide with the peak potential sales period for the ice cream industry.

Plans for the Ice Cream Festival to make the industrywide sales drive more outstanding than ever are already under way. In response to a request from the industry, peach ice cream will be highlighted as the flavor feature during the festival event.

The American Dairy Association and cooperating related food advertisers will spearhead the campaign with magazine, newspaper supplement, outdoor posters, TV and radio advertising. The Ice Cream Merchandising Institute will produce festival display material for use by the industry.

A series of pre-festival rallies will be scheduled in various regions across the country to carry the message of festival plans to the industry. These rallies probably will be given February and March dating.

During the 1952 festival, June and July nationwide ice cream sales substantially topped 1951 figures for the same period, according to Robert North of the International Association of Ice Cream Manufacturers. He points out that successes attained this year are spurring on the sponsors of the event to have plans ready earlier to develop follow-through sales plans at the market level.

OFFERS PROMOTION KITS FOR FORTIFIED MILK SALES

Four powerful new promotion kits to help sell fortified milk have just been released to the dairy trade by General Mills, Inc. according to Leo J. Walsh, sales manager of Special Commodities Division. The kits feature the health, diet and economy benefits of skim milk or 2 per cent butterfat milk fortified with vitamins A and D, or fortified with vitamins A, B_1, B_2, Niacin, and D, and iron and iodine.

By using these kits, the dairy trade can advertise fortified milk with lower fat content to reach and sell consumers who have never before been told or sold on the health value of fortified milk. There are children who

The health and diet benefits of low butterfat milk fortified with vitamin-mineral concentrates is personified above by Joyce Blewett of Minneapolis. Miss Blewett demonstrates the new milk promotion kits prepared for dairymen by General Mills, Inc.

require extra vitamins and minerals for growth and vitality, adults over 60 who must eat less rich foods, and pregnant women or nursing mothers who need extra vitamins and minerals.

The promotion gets the sales message across with large posters, newspaper advertisements, bottle collars, educational folders, radio spot announcements, news stories and letters to doctors. Many additional sales tips are explained in a promotion-idea booklet included in the kits.

Each of the four promotion kits does a specialized selling job for: (1) vitamin A and D 2 per cent BF milk, (2) vitamin-mineral 2 per cent BF milk, (3) vitamin A and D skim milk, or (4) vitamin-mineral skim milk. The skim milk kits are adaptable to non-fat, low-fat, or skim milk.

You may obtain a free kit by writing General Mills, Inc., Special Commodities Division, Minneapolis 1, Minnesota – giving name, firm, address, and type of kit preferred.

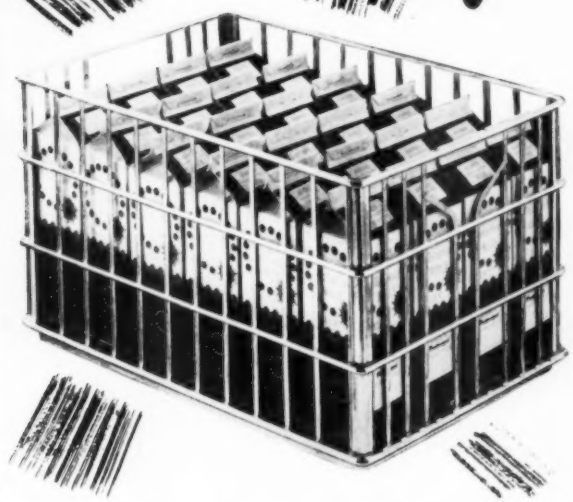
●

IT'S GOT SOMETHING, THAT'S FOR SURE

Results of recent experiments at the University of Minnesota under the direction of Dr. T. W. Gullickson have confirmed his earlier findings that dairy calves fed whole milk thrive better than calves fed skim milk with vegetable fats added in place of butterfat.

Dairy calves fed vegetable fats in their diet invari-

WHY DO BIG DAIRIES BUY THIS CASE ?



Many of America's leading dairies are buying United Steel and Wire Cases, in fact United cases are the most popular steel cases on the market today. Big dairies who have investigated case costs are finding that husky United Steel Cases may outwear low cost wood as much as 10 to 1. Big dairies don't pass up savings like that.

STRONGER — LAST LONGER

United Cases are built on heavy steel bar stock base frames that do not wear out from floor abrasion. Corner posts are solid metal, bottom support wires flat, all wires welded at every intersection. Smooth interiors have no projections to cut or snag, furnish ideal protection to paper bottles. Galvanized finish is smooth and long wearing.

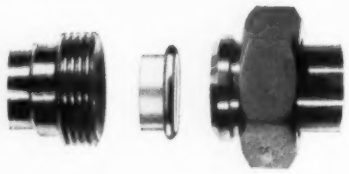
FOOLPROOF IDENTIFICATION

Your name permanently embossed in the steel corner, cannot be removed or completely defaced. You have positive identification for the life of the case. Ask your jobber today. You may be able to cut case costs as much as 40 to 50% over low cost wood.

UNITED STEEL AND WIRE CO.
137 FONDA AVE., BATTLE CREEK, MICH.
Branch Plant: Wilkes-Barre, Pa.

Efsco Seals

PAT. APPLIED FOR



TRULY THE SEAL OF PERFECTION

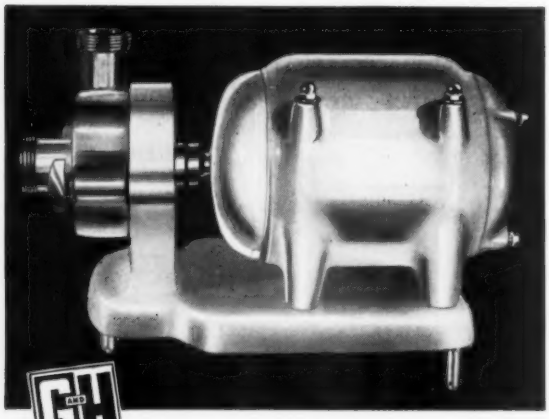
- Fits all 3A standard sanitary fittings.
- For complete satisfaction install them at every connection, tighten by hand, and eliminate milk leakage and loss.
- A twist of the wrist is all that's needed.
- Available in all sizes from 1" to 3".

Sold only through dairy supply jobbers.

FOR FURTHER INFORMATION WRITE TO

DIETRICH SUPPLY CORPORATION

219 W. FAYETTE STREET SYRACUSE 2, N. Y.



SANITARY PUMPS

Always gentle and non-pulsating in product delivery, and without possible sources of contamination, G & H Model 135 is equipped with a ¼ hp. NEMA Standard Motor. Models 136, 140 and 141 are furnished with U. S. Sanitary Motors as standard equipment unless otherwise specified, in ½, 1, and 2 hp. respectively. Stainless steel or nickel alloy construction, with stainless steel legs.

See Your Jobber for "G & H" Sanitary Pumps

PRODUCTS CORPORATION

2409 Fifty-Second St., Kenosha, Wis.

ably died by the time they were 3 months old. Some who were switched to a butterfat diet before 3 months survived.

In studies just completed, corn oil was used as the source of vegetable fat. Similar results were obtained in earlier studies using such vegetable fats as cottonseed oil, soybean oil, peanut oil and cocoanut oil.

New research reveals that calves fed corn oil to replace butterfat appear to show a vitamin E deficiency as indicated by heart lesions and muscle dystrophy or wasting of muscle tissue.

This condition arises in spite of the high level of vitamin E in corn oil and is not corrected by adding vitamin E to the diet. More than 100 dairy calves have been used in these experiments.

This 10-year project, sponsored by the National Dairy Council, has been financed by the nation's dairy farmers through their own advertising, merchandising and research organization, the American Dairy Association.

●

FORMATION OF FORMER SODA DISPENSERS GUILD

The founding luncheon of the Ancient and Honorable Guild of Former Soda Dispensers was held at the Pump Room, September 24th, it was announced by Dan Mahony, an executive of the Lily-Tulip Cup Corporation and the new guild's temporary chairman.

The group, which includes railroad executives, corporation presidents and professional men, met for the first time as guests of Lily-Tulip. Mr. Mahony said one of the aims of the organization will be to bring back the old-fashioned chocolate soda as the American favorite.

"Soda dispensing, like the newsboy delivery field, is a position which has started many men on successful careers," Mr. Mahony said. "Youths learn to meet and serve the public. Many of our most successful business and professional men have used the soda fountain as the first step on the ladder to success.

"Another major aim of the Guild will be to see to it that the profession of soda dispensing will be referred to with proper respect and that the profession will no longer be libelled by the rather crude colloquialisms by which it is sometimes known. The Ancient and Honorable Guild of Former Soda Dispensers will seek to dignify this worthwhile work and eliminate phrases like 'soda squirt'—and worse—from the American vernacular."

●

FOREMOST DAIRIES SET TO BUY TEN INDEPENDENTS

Foremost Dairies, Inc. of Jacksonville, Florida, one of the South's largest dairy companies has announced it is negotiating for the purchase of eight to ten independent firms in a new expansion program.

Paul E. Reinhold, Foremost's president and board chairman, has announced the plans are based on the company's conviction that "the South has become the nation's most important economic frontier."

At the recent meeting held in Houston, Texas, the

mpany's directors authorized Reinhold to proceed with gotiations for the purposed purchases.

The new firms that the company is acquiring will ve them total sales in excess of $140 million a year. he names of these firms or exact locations were not dis-osed, but they are all southern firms, several in Texas. was not stated whether any are in Florida.

Foremost's new expansion plans are part of a con-nuing program which has put this firm in the fore of uthern dairy industry. It was founded in 1931, which appened to be a depression year, and first annual sales eceipts were less than a million dollars.

Last year, 20 years later, sales totaled 58 million ollars. This large and profitable growth was reflected n dividends which the directors declared at this par-icular meeting in Houston. They were then declared s a 75-cent dividend on 6 per cent preferred stock and 25-cent cash dividend, plus an extra 5 per cent on ommon stock.

●

NEW DISPLAY BINS BUILD MILK SALES

New dump display bins designed to build milk sales y linking the dairy department more closely with other departments in the store have been developed for use by he Sealtest divisions of National Dairy Products Corpora-ion, New York.

Store tests show that sales of related products dis-played in the bins have increased from 100 to 200 per cent.

Design of the new point-of-sale piece is patterned fter the color-keyed Sealtest Homogenized Vitamin D Milk carton. The eye-catching red color is highly visible

and aids in quick identification of Sealtest milk cartons in the dairy case.

The bins facilitate location of additional displays in high traffic locations, spurring extra sales either near the dairy case or near the department where the product mer-chandised is usually stocked.

Measuring 18" square, the bins stand 38" high at the back and 29" high in front. A six-inch recess gives the bin enough capacity to contain the equivalent of two cases

NOW SWITCH TO Slip

Amazing
Low Cost Lubricant for Conveyor Chains

AVOID CONVEYOR CHAIN TROUBLES
—PREVENT CHAIN WEAR

Slip is the outstanding lubricant for every type chain conveyor in dairy and bottling plants.
is highly glycerinized, water soluble, and specially blended to provide *more lubrication per pound.*
is entirely different—there's no other lubricant compounded exactly like it.
minimizes chain strain and friction—provides *positive* slip between conveyor chain and bottle, case or can.
cuts down bottle breakage and chain drag—reduces power costs.
Slip will give you *MORE SLIP PER DROP*

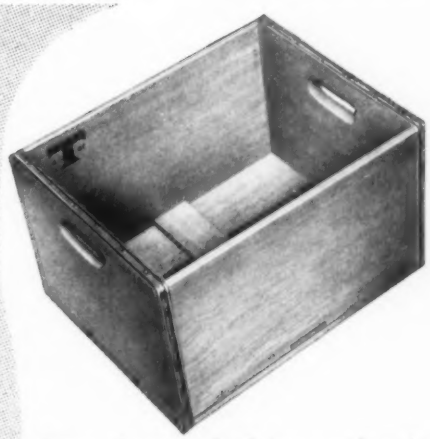
ORDER FROM YOUR DAIRY SUPPLY JOBBER

Haynes Drip Lubricator
available at low cost

The Haynes controlled-flow water drip method using Slip is the most efficient and most economical chain lubricating method available. Slip may be used with all types of dispensers, including trough application.

Haynes The Haynes Mfg. Co.
709 Woodland Ave. • Cleveland 15, Ohio
Roll-Easy Dollies • Roll-Easy Casters • Table Carts • Can Carts • Carry-Baskets
Snap-Tite Neoprene Gaskets • Neoprene Covered Wrenches

TREEN MILK CASES *for paper bottles* COST LESS *because they* MAKE MORE TRIPS



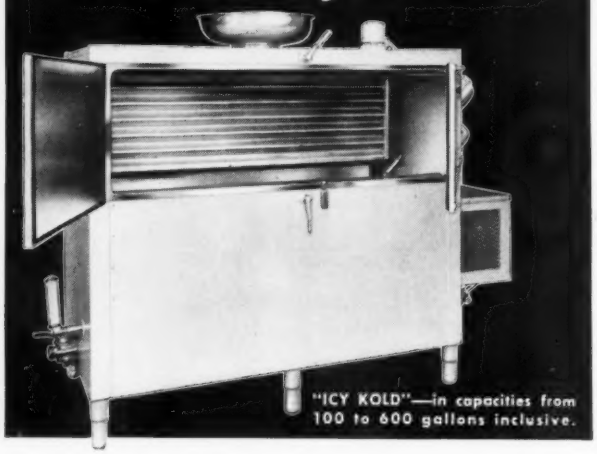
Treen boxes of Cottonwood — the lightest weight hardwood — are strong and durable, fine in appearance, the most economical milk case to use. Reinforced with galvanized strapping and nails. Has stacking bottom.

*Can be furnished with stainless steel strapping and dipped in fungus-proof material.

TREEN BOX COMPANY
Tioga and Memphis Sts., Phila., 34, Pa.
"ACES IN CASES" FOR OVER 50 YEARS

For faster milk cooling . . .

without agitation



"ICY KOLD"—in capacities from 100 to 600 gallons inclusive.

Use CHERRY-BURRELL

"ICY KOLD" Farm Tanks

Put "ICY KOLD" Farm Tanks in your producers' milk houses and you get the kind of high quality milk you want—at less cost. Here's why:

Higher Quality Milk: "ICY KOLD" cools milk in less than 5 seconds—holds it at low temperature until picked up.

Milk Measured and Sampled on the Farm: no complaints about shrinkage, high bacteria counts, low butterfat.

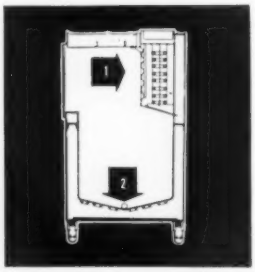
Easy to Clean: All "ICY KOLD" surfaces are stainless, visible, easy to reach.

Less Work: No cans to lift, haul, store, dump, wash, maintain.

Save Plant Expense: No receiving room to operate. No raw milk to cool at your plant.

Save Farm Installation Expense: "ICY KOLD" is a *complete* package unit with only one electrical connection to make.

Double Refrigeration — NO AGITATION: Milk flows in thin film over (1) ice bank built by semi-hermetically sealed compressor. Milk cools to 40°F. in 5 seconds—completely above tank level—and *without agitation*. Compressor also furnishes refrigeration for (2) direct expansion coils on tank bottom for holding milk at low temperature, *without agitation*.



Ask your Cherry-Burrell Representative to show you how "ICY KOLD" Farm Tanks pay off . . . even *for small producers.*

CHERRY-BURRELL CORPORATION

427 W. Randolph Street, Chicago 6, Ill.

Equipment and Supplies for Industrial and Food Processing

FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 56 CITIES

of canned soups or three dozen packages of donuts. Posters or signs placed at the top draw attention to the product in the bin, while the bin itself has an arrow saying "So good with Sealtest Homogenized Vitamin D Milk."

●

ECONOMISTS WILL MAKE MILK MARKETING STUDY

A study of the relationship of dairy cooperatives to the milk marketing program in the New York milkshed got under way on September 30 at a meeting of ten agricultural economists from colleges and universities of six northeastern states.

The study was requested by Preston Richards, Director of the Dairy Branch, Production and Marketing Administration, United States Department of Agriculture, and Kenneth F. Fee, Director of the Division of Milk Control, New York State Department of Agriculture and Markets. These two agencies announced the meeting.

An exploratory discussion of the subject took place at a meeting in September. G. W. Hedlund, Acting Head, Department of Agricultural Economics, New York State College of Agriculture at Cornell University, was chosen by the group to serve as chairman. Chosen as secretary is C. A. Becker, Professor of Agricultural Business Management, Pennsylvania State College.

Others who will make the study are:

C. W. Pierce, Professor of Agricultural Economics, Pennsylvania State College; Stewart Johnson, Professor of Agricultural Economics, University of Connecticut; Thurston Adams, Professor of Agricultural Economics, University of Vermont and State Agricultural College; Allen G. Waller, Chairman, Department of Agricultural Economics, Rutgers University and Agricultural College; Herbert G. Spindler, Assistant Research Professor, University of Massachusetts; Leland Spencer, Professor of Marketing, L. C. Cunningham, Professor of Farm Management, and R. P. Story, Assistant Professor of Marketing, New York State College of Agriculture at Cornell University.

●

NEW JERSEY HITS AT UNFAIR TRADE PRACTICES

Store licensees of the Office of Milk Industry who accept from milk distributors any ice boxes, refrigerating equipment or dispensers for milk or cream or milk products are to be held equally responsible with the dealers in case of violations under new regulations, according to C. Wesley Armstrong, Jr., OMI Director.

The objective of this regulation is to eliminate unfair trade practices in the sale of milk to stores and other wholesale outlets according to Armstrong.

The OMI also has set up a plan which includes a schedule of rates for rentals and sales prices of ice boxes, refrigerating equipment, or milk and cream dispensers. The monthly rates to be paid by the retailers are based on the value of the equipment.

Also under the plan, dealers are to be responsible for the maintenance of equipment rented to stores, while the store licensees are required to maintain their own equipment.

Distributors who sell, lease or rent any such refrig-

erating equipment are required to file a copy of a bill of sale, a lease, or a rental contract with OMI in Trenton no later than the date of installation. When the contract is received, OMI will furnish the distributor with a seal to be placed on the equipment, indicating that it has been registered.

The plan was developed after conferences with dealers, and is one of the steps being taken to eliminate the practice of some wholesale distributors who have been furnishing equipment gratis to retailers when soliciting registered.

●

LINDNER ICE CREAM COMPANY FRANCHISES BY GUNDLACH

The Lindner Ice Cream Company, Norwood, operating 18 retail stores of its own and serving as a wholesaler to 200 other dealers, has negotiated a contract to produce and market FroZerta, a new low butterfat frozen dessert like ice cream but with less calorific content, G. P. Gundlach & Company of Cincinnati, consultants to the dairy and ice cream industry, has announced.

The Gundlach organization developed FroZerta to meet a growing consumer demand for a low-fat content frozen dessert.

FroZerta which has been accorded a long period of consumer acceptance tests is meeting with unusual popularity in various parts of the country, G. P. Gundlach, president of the Gundlach organization, said. The Gundlach firm has developed the special ingedients, special designed cartons and shake cups and a comprehensive sales promotion, advertising and distribution program for FroZerta franchise holders.

●

NEW METHOD OF CANNING BANANAS

Continental Can Company has developed a method of canning banana puree that will preserve the natural flavor and color of this tropical fruit. The new method solves one of the major problems encountered in recent years by investigators who have attempted to can banana puree—it eliminates the brown or pink discoloration that commonly occurs in the processed product.

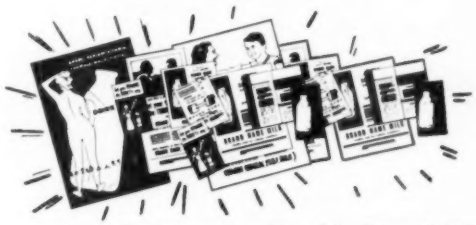
This discoloration, it was found, was caused principally by enzyme activity. Discoloration is eliminated by blanching whole, peeled bananas in hot water, steam, or a combination of both for six or eight minutes or to a center temperature of 190° F. The whole bananas are then pureed in a conventional finisher or comminutor.

In addition to eliminating the discoloration, Continental researchers found it necessary to adjust the pH and sugar content of the natural fruit because of varietal differences, maturity, etc. The pH is adjusted by addition of citric acid (the acid in lemon juice) to a range of 4.1 to 4.3 to permit low temperature sterilization and the sugar content to 30 to 40 per cent to enhance flavor. The banana puree is then flash pasteurized to a temperature of approximately 200° F., filled and sealed into cans and subsequently cooled.

Can you sell Milk to Her?

This woman is one of thousands in your area who doesn't drink milk—but she should—and you can sell her

Easily with General Mills new **Vitamin-Mineral Milk Promotions!**



Fortify your milk with General Mills *Danda Concentrates*—*advertise* your milk with General Mills *promotions* on

Vitamin-Mineral *Skim Milk or
Vitamin-Mineral 2% Butterfat Milk

These promotions will reach and convince people you *never* have been able to sell—get your sales message across by newspaper, poster, folder, bottle collar, radio, publicity, doctor letter or any combination of these that fits your needs. See for yourself—without obligation!

**This promotion adaptable to Non-Fat and Low-Fat.*

Complete Sampler Kit FREE
JUST OUT! MAIL COUPON TODAY!

General Mills, Inc.
Special Commodities Division
Department C, Minneapolis 1, Minn.

Gentlemen: Please send me my advertising campaign on:

☐ Vitamin-Mineral Skim Milk ☐ Vitamin A & D Skim Milk
☐ Vitamin-Mineral 2% BF Milk ☐ Vitamin A & D 2% BF Milk

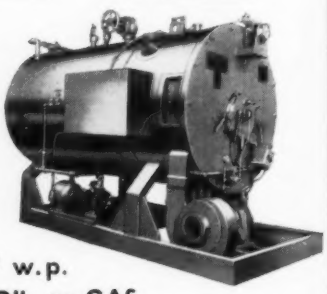
Name _____
Firm _____
Street _____
City _____ Zone _____ State _____

YOU GET REAL SERVICE WITH

AMESTEAM GENERATOR

Before Installing . . . A Complete Manual on "How To Do It"

After Installing . . . Our LOCAL Service Man Starts Unit and Provides Three Months Free Service



10 to 500 h.p.
15# to 200# w.p.
OIL or GAS

AMES IRON WORKS
INCORPORATED
BOX B-11 OSWEGO, N. Y.
Builders of Better Boilers Since 1848

Your Inquiries Are Invited...

There is no other publication in the field supplying its readers with so much useful information about the concerns serving the industries as . . .

Who's Who in the Dairy Industries

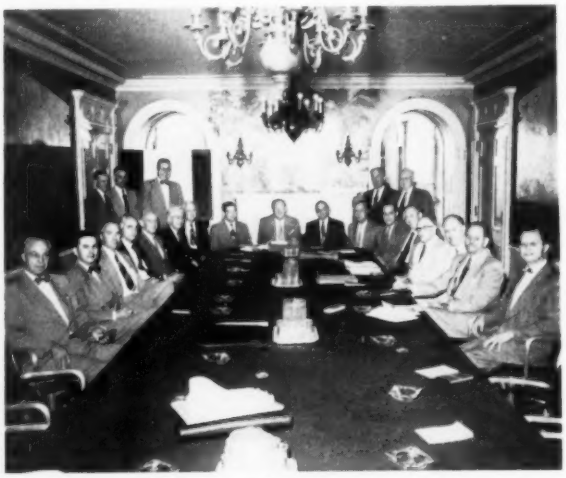
In this particular issue our advertisers tell about their services and products. You will find them listed in the "Index to Advertisers" in the back of the book.

Your inquiries are invited by all these advertisers . . . leaders in their field. Please mention this publication when writing them.

URNER-BARRY CO.
Publishers Since 1858
92 WARREN STREET NEW YORK 7, N. Y.

DOLE REFRIGERATING CO. HOLDS SALES MEETING

Dole Sales Meeting of Executives and Sales Representatives was held at the Palmer House, Chicago, September 19 and 20, most of whom manned the Dole Booth at Dairy Industries Exposition, Navy Pier. In the picture—(sitting, left to right):



O. J. Armstrong, Richmond; D. A. DeMore, New York Office; G. E. Nelson, Boston; A. F. Sawyer, Ormond Beach, Calif.; C. C. Ryan, Manager, New York Office; J. A. Wilkerson, St. Louis; H. W. Kleist, Vice-President and Chief Engineer; O. L. Rose, Vice-President and Assistant General Manager; E. J. Tweed, President and General Manager; L. E. Smith, Sales Manager; B. P. Tweed, Vice-President and Manufacturing; R. J. Hermann, Sales and Engineering; H. E. Clay, Los Angeles; A. W. Monroe, Madison; H. DeBaugh, Sales and Engineering; A. B. Brady, Columbus; B. L. Ballinger, Seattle; G. S. Keeler, Assistant to President; J. E. Hutchinson, Canada; H. P. Hansen, Manager Canadian Subsidiary; Bayard H. Clark, Advertising Agent; Ernest C. Wilbur, Advertising Manager.

●

CAN YOU MATCH THIS?

Certificates of award in the match industry's first annual awards program for distinguished book match advertising have been given to Abbott Dairies, Inc., of Philadelphia, and the Maryland Cooperative Guernsey Breeders' Association of Baltimore, the Match Industry Information Bureau announced recently.

The awards were made, among 1,989 entries, by a panel of 10 judges prominent in the advertising world. Receiving the awards for the two winners in the dairy industry were Frank W. Hoover, advertising manager of Abbott Dairies, and Arthur L. Mulford, field secretary of the dairy cattle group.

The awards were made as part of the match industry's celebration of the sixtieth anniversary of the invention of book matches by Joshua Pusey, Philadelphia lawyer, on September 26. Today book matches are widely used for promotional purposes by industry, and the entry of some three dozen from dairy concerns showed how widely this industry employs them.

CARL WOOD TO HEAD JUNE DAIRY MONTH PROGRAM

Carl A. Wood, President of the Dairy Industries Supply Association, was elected Chairman of the 1953 June DAIRY MONTH Campaign at a meeting of the JDM National Sponsor Committee held in Chicago last month. As June DAIRY MONTH Chairman for 1953, he succeeds C. R. Schoby, President of the American Dairy Association.

Lloyd H. Geil, Director of Public Relations of the National Dairy Council, was re-elected Vice-Chairman of the JDM Sponsor Committee.

At the Sponsor meeting, the theme: "Nature's Goodness at its Best—Dairy Foods" was approved for the 1953 campaign. The committee selected the National Dairy Council to serve again as national headquarters for June DAIRY MONTH.

The committee also appointed representatives to the National Industry Relations Committee and the National Public Relations Committee, working sub-committees for the campaign.

The Sponsor Committee is composed of representatives of American Butter Institute, American Dairy Association, Dairy Industries Supply Association, Evaporated Milk Association, International Association of Ice Cream Manufacturers, Milk Industry Foundation, National Cheese Institute, National Creameries Association, National Dairy Council, and the National Milk Producers' Federation.

January 13, 1953, was set as the date for the next meeting of the Sponsor Committee, at which time campaign details as formulated by the JDM Industry Relations and Public Relations Sub-committees will be reviewed.

●

GEORGIA TOPS IN SOUTHERN JUDGING CONTEST

MILK

Teams	Individuals
1 MARYLAND	1 E. E. Seay, V.P.I.
2 V.P.I.	2 A. J. Speniell, Texas A & M
3 KENTUCKY	3 Miss Mil Vilums, Maryland

ICE CREAM

1 OKLAHOMA	1 David Lyle, Georgia
2 GEORGIA	2 E. A. Day, Maryland
3 KENTUCKY	3 Ronald Biggerstaff, N. Car State

CHEESE

1 GEORGIA	1 David Lyle, Georgia
2 MARYLAND	2 Robert Roberts, Georgia
3 NORTH CAROLINA STATE	3 E. A. Day, Maryland

BUTTER

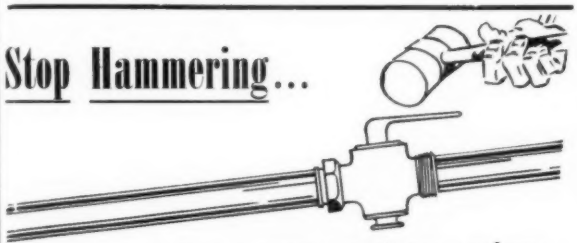
1 GEORGIA	1 David Lyle, Georgia
2 OKLAHOMA A & M	2 Elijah Pigg, Okla. A & M
3 TEXAS TECH	3 Robert Roberts, Georgia

ALL PRODUCTS

1 GEORGIA	1 David Lyle, Georgia
2 MARYLAND	2 E. A. Day, Maryland
3 OKLAHOMA A & M	3 Robert Roberts, Georgia

Committee in charge:
Professor J. J. Sheuring, Chairman
Professor Carroll Flora — Professor Paul Johnson

Stop Hammering...



It's 100% Sterile!

. . . your sanitary valves. They always work smoothly with . . .

the lubricant in the Orange Tube!

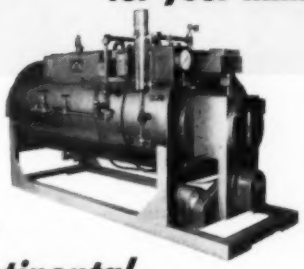
Ideal for
- HOMOGENIZER PISTONS
- SANITARY VALVES
- AMMONIA VALVES
- CAPPER HEAD GUIDES
- SANITARY SEALS
- POSTIVE ACTION PUMPS

No longer the need to constantly hammer your valves to loosen them. With a touch of the wonder lubricant in the orange tube, they work smoothly, easily—always! Your valves have perfect seal and you overcome frequent regrinding and prevent leakage. Comes in sanitary aluminum tube — is tasteless, practically odorless, 100% pure! Now used from coast to coast in dairy plants.

ORDER TODAY! $3.00 for 6 — 4-oz. tubes. $5.50 for 12 — 4-oz. tubes. F.O.B. Columbus, Ohio

McGlaughlin Oil Company
3750 E. Livingston Avenue Columbus 13, Ohio
Packaged by the authority of the Famous Lubricants, Inc.

Plenty of hot water and steam for your milk processing



Complete size range from 10 to 500 HP, high or low pressure

with Continental

PACKAGED AUTOMATIC BOILERS

Continental Automatic Boilers, with a guaranteed efficiency of at least 80%, cost much less to install and maintain. Fully automatic, no attendant is required. For more efficient pasteurizing, washing and sterilizing at lower cost, install Continental. More than 40 years of practical boiler building assure you of rugged, foolproof construction and improved design. All boilers are shop-fire tested before shipment.

Don't delay! Call or write today for full details.

BE BOILER ENGINEERING AND SUPPLY COMPANY, INC.
4-11 Manavon Street • Phoenixville, Pa.
40 Years of Boiler Experience

Truck Topics

Control of Parts and Supplies

TRUCK TOPICS

YOU CANNOT discuss ways and means of operating a fleet of trucks for very long without getting into the problem of control of the parts and supplies used to maintain them. The stockroom is prone to dollar leakage with parts lost, strayed or stolen. It also tends to become a personal purchasing service which makes analysis of shortages more confusing than ever.

In the small shop, say where two mechanics are working, it is useless to try to keep the stockroom locked. It would probably not be desirable anyhow because you can hardly expect one man to be a parts expeditor for the other. Where the crew is larger, it has been proved time and again that it pays to keep the parts locked up.

In any event, some one person has to bear the responsibility for the stockroom and its housekeeping. It is not fair to pin this responsibility on an individual if eight or ten people have access and the privilege of withdrawing material that belongs to the fleet.

If the fleet is not sufficiently large to employ the services of a shop clerk or a parts clerk or manager, it is usually the foreman's job to keep the stockroom in order. This he cannot do unless the withdrawal of material is restricted and he has some system of keeping track of what material is bought and where it goes when it leaves the stockroom.

The simplest way is to have a card record of each type of part by number and description. The card can also have a note giving the bin location of the part. Among the more valuable features of the card is that it has a maximum number of parts that are ever supposed to be in stock and also a minimum number.

The maximum and minimum numbers are of course based on experience. The maximum should be the number of parts that will carry the shop without repetitious ordering. If it is desired to order parts once a month as a routine, the maximum should be sufficiently high to cover the number used in a month with a few left over to take care of unusual circumstance and possible delays in shipping and delivery.

The minimum is the number at which more parts of the type indicated must be ordered. If ordering is done on an irregular basis and some of it always will be, the minimum is the danger signal which is used to keep trucks from being tied up for lack of parts. One limit prevents overstock with consequent useless investment in parts while the other assures a supply when needed.

Perpetual inventory cards such as these permit spot checks from time to time and are extremely useful for that reason. It makes it possible to find out how well the stockroom is doing without a complete analysis of the purchase orders and a lot of bookkeeping. Fleets with large stocks have found that it pays to have a method of checking without waiting for the year-end inventory when it may be costly to correct a leak.

Inventory cards are almost always kept in the stockroom or in the office when the fleet is large enough to have a clerk whose duties include posting the cards. Where the fleet is not large enough for this specialist, the cards are frequently kept in the individual parts bin and the notations are made on them at the bin when the part is withdrawn.

There are several card systems and cabinets made to keep them in order.

If this type of system seems elaborate and cumbersome, make an estimate of the value of the parts and supplies in stock. It will probably be much more than was thought at first. Keeping track of large amounts of money is a profitable enterprise. Then add to it the cost of trucks tied up over the period of a year for lack of parts or delay in delivery. It may pay off. The number and variety of parts in the average stockroom is just too much for one man's memory.

Where some of the maintenance work is farmed out, such as the specialties like machine work and electrical unit rebuilding, it is common to keep rebuilt units in stock. This makes the amount of money in the stockroom climb very fast. Spare tires are valuable and should be branded so that a record can be kept.

Most shop men do not like to do

(Please Turn to Page 78)

"DID YOU EVER SEE SO MANY PENNIES, MR. SMITH?"

The Cover Story

MARCUS D. MUNN

Pioneer in Founding the

National Dairy Council

MARCUS D. MUNN
1858-1946

MARCUS D. MUNN was a leader in the dairy industry for more than thirty years. He was born on a farm in Connecticut, February 22, 1858. He was graduated from Yale with high scholastic honors in 1883 and moved to St. Paul, Minnesota where he opened a law office.

Over a period of years as an outstanding corporation lawyer, Mr. Munn developed a large and important clientele. However, he never lost his love for the country. He purchased a beautiful farm near Forest Lake, Minnesota which he named Mira Michi, Indian for "Happy Retreat." Here he developed an outstanding herd of Jersey cattle which became nationally famous for its show ring winnings as well as for high production records. Mr. Munn's accomplishments as a Jersey breeder and his interest in the American Jersey Cattle Club won him the post of president of this club in 1915.

Mr. Munn's greatest contribution to the welfare of the dairy industry was his part in the development of the National Dairy Council in 1918. This organization really had its start in the winter and early spring of 1915. The foot and mouth disease epidemic that year had caught several million dollars' worth of purebred cattle in the Chicago stockyards during the National Dairy Show, and the government quarantined these valuable animals. Mr. Munn was most active in the battle to get these animals released to their owners. Later he led a movement to raise funds for a modest commercial advertising campaign by the organization.

In 1918, a group of dairy leaders became fearful of the future because dairy products had been short in World War I. This group had hopes of building in industry to a point where it would offer a greater contribution to national health and well-being. They developed plans which ultimately led to establishment of the National Dairy Council as it now operates.

The idea of increasing consumption of dairy products by an educational program was new and untried. All food promotion work had previously been carried on by commercial advertising. It was Mr. Munn's vision of the future that enabled him to see that with health education and nutrition being introduced into the schools, it was of the utmost importance that the dairy industry develop its educational program to fit into the new trends in education.

Mr. Munn also was one of the first to maintain that the National Dairy Council must keep clear of all controversies in the dairy industry. It was his opinion that other organizations were better designed and equipped to handle such matters as legislative and economic problems. It was his contention that if the organization was to win the confidence of educators and professional leaders, it must confine its activities to an educational program. His ideas prevailed. Today few people would question the wisdom of his judgment.

Another indication of Mr. Munn's clearness of vision and organizational ability developed when it became evident that the establishment of state Dairy Council units was not practical in all sections of the country. The practice of organizing local affiliated Dairy Council units around important market centers resulted. In June, 1920, the New England Dairy & Food Council was organized in Boston. Then Philadelphia, Pittsburgh, Minneapolis and St. Paul, Cleveland, Columbus, Detroit, and Hartford followed in rapid succession. One of his

(Please Turn to Page 71)

WASHINGTON REPORTER

By HAROLD E. CHRISTIE

Higher Prices—Less Milk

THE FORECAST for the next few months is further increases in prices of dairy products but less milk and supplies of dairy products. Americans are consuming more and more milk according to the United States Department of Agriculture.

During the month of September, dealers paid higher prices for milk used in fluid distribution—at this time of year prices rise seasonally, but September prices showed more than the usual climb. On the whole the price paid by dealers in early September was $5.55 per cwt. compared to $5.20 a year earlier.

Production estimates for this year are now pegged at 114 billion pounds which is 1.6 billion less than the 1951 output. Record high retail sales are reported in many cities pointing up the fact that the consumer market continues to buy even at high prices. Raises in other dairy products are expected this fall.

Imports of Milk and Cream Small

Although the U. S. has a 3 million gallon import quota for the calendar year, U. S. imports of whole milk only totaled 19,307 gallons by the end of August. A similar situation exists with respect to cream – 673 gallons imported as of August 30 of a possible 1,500,000 gallon calendar year quota.

Sales of Milk Dealerships Decline

Last year, USDA reported an increase; a ten per cent increase in the sales of milk dealerships during the month of July. Similar records kept this year show less transition, in fact, June totals only indicated a 3 per cent turnover.

USDA compiles these comparative figures from organizations operating from one to ten stores, but does not attempt to cover all retail store transactions. Its surveys are pertinent only to sample census areas, but they do indicate possible trends.

Retail Prices in 24 Major Cities

A September poll of 24 major cities reflects an average price of 23.4 cents per quart, or more than 1.1 cents per quart of the price last year at this time. It is 3.5 cents a quart more than the September 1946-50 average for these same 24 cities.

Retail prices are advanced in one out of every four city markets polled and producer prices were higher in about one in every three markets—in September last year, prices at both retail and producer levels rose in one out of every 11 checked.

According to a regional breakdown, all regions showed definite increases with the exception of the Mountain States. The largest increase was 29 cents a hundredweight in the East South Central Region followed by a 23 cents per hundredweight increase in the West North Central Region.

Price actions by Vermont and Rhode Island state authorities advanced retail prices one cent per quart in the principal cities of those states.

Industry and OPS Discuss Higher Prices for Milk Containers

During late September, members of the steel shipping container industry met with OPS officials discussing their pricing problems. Manufacturers told OPS that the industry is in a serious price squeeze principally due to increased labor costs.

These manufacturers say that they have concluded labor contract agreements in line with the steel wage settlement and the recent pass-through order allows them to adjust their ceilings. But, they continue, other material costs and transportation cost increases are making strong inroads upon the industry's profits.

Metal container manufacturers asked OPS to let them pass through increased labor costs like they did the recent increase in steel prices.

OPS turned thumbs down on the proposal, but did give the industry this possibility: Under the so-called "Industry Earnings Standard Formula" which gives an industry a chance to apply for higher ceiling prices if it can show that current earnings have

Creamery Package
ELECTRIC
MILKEEPER
for BULK FARM COOLING
QUALITY CONTROL THAT PAYS
THE Creamery Package MFG. COMPANY
General and Export Offices: 1243 W. Washington Blvd., Chicago 7, Illinois. Branches in 21 Principal Cities

FOR TOP QUALITY COTTAGE CHEESE

1. Use a Culture made especially for Cottage Cheese. F-L Lactic Acid Ferment Culture is "tops."
2. Use a proven Coagulator in a 2 to 5 hour set F-L Coagulator does this job superbly.

This combination will save you time and money and will satisfy your most discriminating customers.

Write today

FLAVOR-LINE, INC.
845 S. Wabash Ave. Chicago 5, Ill.

dropped below 85% of average earnings in the best three or four years from 1946 to 1949, an industry-wide adjustment might be achieved.

Members then explained to OPS the difficulty of an industry-wide price adjustment due to the fact that metal container production is usually a sideline of larger steel concerns.

For the present, the discussion of possible price ceiling hikes was concluded on this note, however the manufacturers will continue to seek a solution. In any event, current discussions pose the possibility of further price increases in the 5 to 110 gallon metal container field.

Modified Delivery Cases Recommendation Circulated

U. S. Department of Commerce is circulating a proposed revision concerning modification of milk bottle crates among manufacturers, distributors, and users for their opinions.

The original recommendations came out in 1949 and was revised in 1950 covering a simplified list of recommended standard dimensions for delivery cases for square and oblong glass milk bottles, and delivery cases for square paperboard milk containers.

In its present form, the proposed revision contains changes which the Milk Bottle Crate Manufacturers Council felt should be made to R235-50 making the recommended standards more useful.

New Method for Measuring Fat Content of Milk

At the recent meeting of the Milk Industry Foundation in Chicago, a USDA chemist described a simple method for measuring the fat content of milk and cream, utilizing the usual graduated test bottles, pipettes, centrifuge, and Babcock test.

Instead of using sulphuric acid, the specialist used a detergent compound and measured the fat content directly, rapidly, and as accurately as the Babcock test. The two necessary reagents include a water solution containing very small amounts of a non-ionic detergent and a phosphate salt, and the other reagent is a 50% methyl alcohol.

The routine is the same but instead of adding sulfuric acid, five milliliters of the detergent is added. Then the test bottles are immersed in boiling water up to the level of the milk for 15 minutes.

After removing them, enough 50 per cent methyl alcohol is added to bring the contents to the upper part of the graduated scale in the neck of the bottle. The bottles are whirled in the centrifuge for one or two minutes and then immersed in a warm water bath (55 to 60 degrees) to the level of the top of the fat column. They remain in the bath until the fat becomes stabilized and the lower part assumes final form.

Readings are then made as with the Babcock test. The advantage of this method is a clearer fat column in the bottle neck permitting a more precise reading of the fat percentage. The detergent compound makes the bottles easier to clean than the sulphuric acid method, and eliminates the danger to the operator from hot sulphuric acid.

Milk Marketing in the South

Milk marketing down South has long posed a problem to the dairy industry. Though dairying has for some time been considered an enterprise adaptable to that section of the country, there's plenty of need for expansion down south to help raise nutrition levels there. And to meet the needs of the area the Southern Dairy Regional Marketing Project began back in 1948.

USDA is soon to publish its project report on seasonality of supply and uses of milk down south in bulletin form in its Southern Cooperative Series. The report deals with problems facing dairy producers in the southern states and was compiled jointly by the Agricultural Experiment Stations of southern states and the Bureau of Agricultural Economics of the USDA.

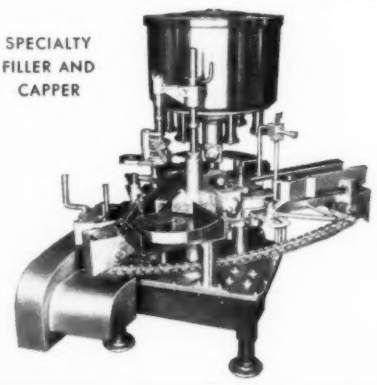
The report indicates that a majority of these many problems stem from seasonal delivery fluctuations; for example, supplies of Grade A milk are high in spring though the sale of fluid products is on the decline, while in the fall the situation is just the reverse —demand for fluid products increases as production decreases. This creates a situation of milk importation from areas outside the southern states.

In 1949 daily deliveries by milk producers during a peak month were 139 per cent of the average of the month of lowest marketings; while fluid milk sales during that same period varied only 10 per cent. Matter of fact, local producers supplied 13 per cent more milk than was used in fluid production.

Another problem confronting those producers is that milk produced down there is imperfectly balanced so far as the proportions of butterfat and skim milk it contains. Butterfat content was greater than that used in fluid milk products all year round. On the other hand for five months of the year local production of skim milk supplies have been inadequate.

USDA hopes to bring about a more evenly proportioned supply and demand for the year round and is currently working toward that end.

SPECIALTY FILLER AND CAPPER



Fill and Cap Any Standard Size Bottle!

Half-Pints to Gallons — Round or Square Including 2 qt. Oblong

The Specialty Automatic Rotary Filler and Capper can be switched from gallon jugs to squat half-pint bottles in just 90 seconds. Fills round or square glass bottles, including gallon jugs and conical paper bottles. Six valve, fully automatic, variable speed drive, clean fast filling. Safety automatic clutches reduce bottle breakage. Built-in conveyor at no extra cost. Leakproof pressurized lubrication. Modern sanitary design, easy to clean. Write for free literature.

Hand operated models also available

GENERAL DAIRY EQUIPMENT, INC.

Minneapolis 14, Minnesota

KNOW YOUR BUSINESS, MR. DAIRYMAN

(Continued from Page 14)

they may be present only as impurities – for they have not been shown to have either structural or functional roles in the body and no one with a recognized deficiency disease has been shown to be benefited by their addition to the diet.

Our needs for certain minerals differ with age, body size, sex, activity, and even climatic conditions. Minerals are best utilized when supplied by natural foods. While each mineral has its own specific role to play in the body, the balance of minerals present in the tissues and body fluids seems even more important than the actual amount of each which is present. Excessive dosing with individual minerals may completely upset the entire mineral balance in the body.

The minerals of milk are fairly stable and cannot be greatly changed by alteration of the feed given a cow (though there is some fluctuation in individual samples taken periodically from the same or different animals). Milk is particularly rich in calcium and phosphorus. It is low in iron, copper, and manganese. *Twenty-nine minerals have been found in milk, including some of all of those recognized as essential.*

Vitamins

Vitamins are nutrient substances found in very small quantities in milk and all natural foods. Not all foods contain the same vitamins, nor are they present in the same concentration in all foods. The different vitamins have very little resemblance to each other, either in structure or the way they function in the body. Each plays a highly specialized role in body chemistry. While no individual vitamin can be a substitute for or replace another in body functions, each appears to influence the need for certain of the others. For this reason, it is more desirable to obtain vitamins from foods than in concentrated form.

Fifteen to twenty different vitamins are probably necessary in man's diet if health is to be maintained. However, the quantity of each which may be required is exceedingly small and, in most cases, not yet determined. Recommended daily dietary allowances have been agreed upon only for vitamins A, D, and C, thiamine, riboflavin, and niacin. These are the vitamins which have been recognized and have been available in concentrated form for the longest period of time. The progress made in our knowledge about these particular vitamins has resulted from intensive research– research which sought the causes of diseases observed through centuries as widespread killers and cripplers of man. These diseases, such as rickets and scurvy, are now recognized as simple dietary deficiencies, completely preventable by a wise choice of food.

"SO LONG, OOLUK; BE SURE TO KEEP IT IN THE REFRIGERATOR."

Vitamin A is found naturally in butter and the butterfat portion of milk and other dairy foods. Vitamins D, E, and K are also found in butterfat but in small quantities of little nutritional significance. The other vitamins have been found in the nonfat portion of milk. While riboflavin heads the list of these last-mentioned vitamins because it is present in milk in such generous amounts, the total nutritional value of the others must not be overlooked in reckoning the value of milk and milk products in the diet.

"Guide to Good Eating"

Eating, which is both a personal and social pleasure, would become highly burdensome if each of us needed to count up, at each meal, all of the nutrients discussed in this article. The burden would be too great even for a nutritionist.

Fortunately, it can be easy to eat well and stay healthy. All of the substances our bodies need are available in our food supply. We need only to choose a suitable variety of natural foods to achieve good personal nutrition.

The "Guide to Good Eating" was developed by the National Dairy Council to aid both the trained and the untrained in easily choosing a diet which would provide all of the needed nutrients from natural foods (see page 13).

This pictorial chart proved to be such an effective tool for teaching people how to eat that it has since been developed in modified form by numer-

Low Cost Sanitary Way to **CLEAN ALL CANS**

Thoroughly cleans inside of straight or irregular shaped cans. Multiple fingered rubber scrubber gets to every corner and crease. Electrically operated. Attach water line, plug in and it's ready to go.

Write, Wire or Call for FREE FOLDER

GORDON JOHNSON COMPANY

2519 U Madison St., Kansas City, Mo.

ous other agencies engaged in nutrition education, government as well as non-government agencies. The foods listed in the "Guide" are known as the "protective" foods.

The "Guide to Good Eating," and the many modifications made of it, tell the nutrition story for the dairy industry – in terms of the foods the housewife sees in her market – in terms of the foods which we all like to "draw-up-to" at the table. However, this or any recommended food pattern is valid only when supported by sound scientific investigation of the nutrient content of foods and man's needs for those nutrients.

You, Mr. Dairyman, should have an understanding of the principles of good nutrition which give dairy foods such a prominent place in this nationally accepted "Guide to Good Eating."

Only with full knowledge of his products can a salesman do a selling job worthy of the goods he markets – and meet modern competition.

●

PEORIA DAIRY NAMES WEIL

E. J. Rush, general manager of Peoria Producers Dairy, has announced the appointment of Joseph A. Weil as Advertising and Public Relations Manager. In this capacity, Mr. Weil will supervise all promotion and public relations activities of the dairy.

A native Peorian, Mr. Weil graduated from Bradley University in 1947 after having served 3½ years in the U. S. Army. He then spent four years as an Account Executive at Mace Advertising Agency, Peoria. For the past year Mr. Weil has conducted a publishing business in this city.

PIONEER IN FOUNDING OF NDC

(Continued from Page 67)

greatest satisfactions in later life was the realization that the forty-seven affiliated Dairy Council units were playing a tremendous part in influencing the nutrition habits of America. This number of affiliated units has, since 1946, increased to sixty.

The first of many pieces of printed educational material was a booklet entitled "Milk, the Necessary Food for Growth and Health." From this small beginning, hundreds of thousands of school teachers, millions of school children, countless numbers of doctors and nurses, dentists, and health authorities have come to rely on National Dairy Council literature for authoritative and adaptable material. Mr. Munn always considered the development and distribution of educational materials one of the most important phases of the Dairy Council program.

In 1921, the National Dairy Council, at Mr. Munn's instigation, added a nutrition director. This was the first step in the establishment of the Nutrition Department which enjoys the confidence of food authorities and educational leaders throughout the nation.

Over a period of years, Mr. Munn guided the growth of the organization until it had the support of the industry generally, as well as the respect of educational and professional leaders. He had hoped to retire shortly after the organization of the National Dairy Council, but it was not until 1936 that he did. Even after his retirement with the title of President *Emeritus*, he continued to give generously of his time toward perfection of the organization policies.

An indication of the esteem in which the dairy industry held Mr. Munn was the result of a survey made by one of the leading dairy publications in 1928. Mr. Munn ranked high among the leaders, even though his ideal, at this date, had not yet reached its fruition.

Mr. Munn was noted for his keen intellect, his well organized ideas and his forceful presentations. He was courageous when men needed courage. During the early and often difficult years of the National Dairy Council, and again in the great depression, he never hesitated even though less courageous men fell by the wayside. In his clear vision, he always saw, out on the horizon, a great dairy industry as the bulwark of a strong, vigorous, vital humanity.

Mr. Munn expressed his confidence in the results of his most important life's work when he stated, "The Dairy Council will be here as long as science uncovers new facts on the food importance of dairy products and until every man, woman, and child has that information, and even beyond that, as long as children are born."

●

NEW DIVISION HEAD AT RESEARCH LABORATORIES

Dr. Lewis H. Rogers has been appointed Head of the Division of Analytical Chemistry of National Dairy Research Laboratories, Inc., Oakdale, New York, effective September 15, 1952. For the past several years, Dr. Rogers has been in charge of an analytical research group in a division of Union Carbide and Carbon Corporation operating at Oak Ridge, Tennessee under the auspices of the Atomic Energy Commission.

Regardless of varying head pressures—this revolutionary new pump will automatically deliver a constant volume of milk. This is accomplished by the Girton Compensating Impeller—new in principle and amazing in performance.*

Write for full details contained in new Bulletin

*Pat. applied for.

GIRTON MANUFACTURING COMPANY
• MILLVILLE, PA.

USING OUR SEPARATOR

Milk Can Scrubber

THE fast-working Skrub Master scrubs milk cans sparkling clean without the drudgery of hand-scrubbing. All that is necessary is to pour a small amount of detergent solution into the milk can and a little water. The can is then placed on the self-supporting rack and the switch flicked on. By sliding the can back and forth a few times the neck, sides and bottom are scrubbed clean. A quick rinse finishes the job.

Unique self-expanding action and brush construction permits the brushes to conform to every part of the can's interior. Every contour is followed, giving an equalized scrubbing that insures removal of dirt and residues.

Full details may be secured from the Nelson-Dykes Co., Republic Bank Bldg., Dallas, Texas.

●

HTST Control System

BROWN Instrumentation Data Sheet 3.4-6a describes a complete control system for short time pasteurization equipment used in the dairy industry. This new edition includes photographs of the system in operation, and shows how the equipment is sealed by the inspecting sanitarian to guarantee safe operation.

Write for this data sheet to Station 213, Brown Instruments Division, Minneapolis-Honeywell Regulator Co., Wayne and Windrim Aves., Philadelphia 44, Pa.

Casing Machine

A MACHINE that automatically loads filled paper milk containers into cases has been introduced by Standard-Knapp, division of Emhart Mfg. Co., Portland, Conn., manufacturers of packaging equipment.

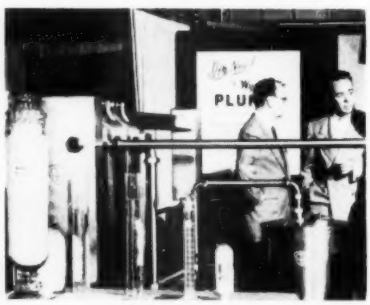
Now in operation at one of the large eastern dairies, the new case packer is capable of loading at speeds up to 160 containers or 8 packed cases per minute, having a pack arrangement of 5 x 4 x 1.

Built to comply with existing sanitation codes, all parts that will come in contact with milk spilled within the unit are made of stainless steel. Cracks, crevices and protruding accessories were carefully designed out of the machine as sanitary measures. Another major feature is that the entire load forming and casing assemblies are easily removed for cleaning.

●

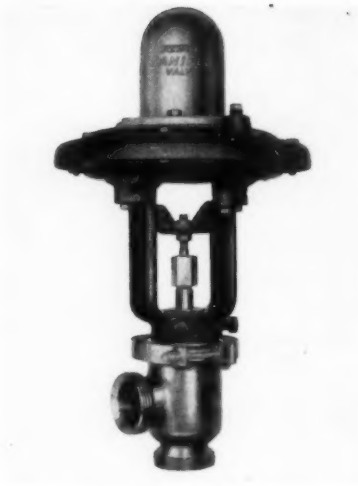
Milk Solids Remover

A CHELATED, easy-to-handle, dustless alkali for HTST and cleaning-in-place jobs called Plurac was introduced by Wyandotte Chemicals at the recent Chicago Dairy Industries Exposition. The new product, which has been thoroughly field tested, easily and quickly removes all milk solids from piping, pasteurizers, and other equipment.



As shown in the photo, Plurac was demonstrated at the Dairy Exposition in a HTST pasteurizer equipped with a glass holding tube

Plurac was one of five Wyandotte products featured at the Dairy Exposition, including a new and revolutionary germicide, Wyandotte Antibac.



Sanitary Control Valve

A 2-WAY VALVE specifically for sanitary control food processing operations has been announced by The Foxboro Company, Foxboro, Mass. Featuring the high flow capacity of an expanded "streamlined flow" body and the friction-free power of the Stabilflo diaphragm motor, the Saniflo Valve has the added advantage of quick and easy disassembly for cleaning, a vital factor on such processing equipment as pasteurizers, milk lines, de-aerators and fillers.

All parts exposed to product are Type 18-8, corrosion-resistant stainless steel. The one-piece stem and plunger eliminates threads and crevices which may harbor bacteria formations.

High capacity of the Saniflo Valve allows greater flow of product, even in viscous service such as processed cheese and chocolate liquor. The plunger is a modified parabolic design, equally effective in throttling (proportional) and open-and-shut control.

●

High Wet Strength Glassine and Greaseproof Paper

AVAILABILITY of high wet strength glassine and greaseproof paper in greatly increased quantity in a much wider variety of grades is announced by Rhinelander Paper Co. This is because Rhinelander's new and most versatile Number Eight paper machine has been equipped to produce Aqua-Tuf (Rhine-

lander's trade name for its wet strength grades). Thus, these two useful functions of wet strength and grease resistance may be teamed together with almost any combination of highly variable paper qualities that are characteristic of glassine and greaseproof because they are so largely "custom-built."

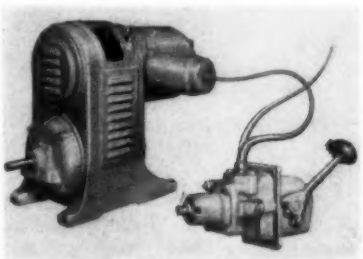
Aqua-Tuf is recommended for use as a butter or shortening wrap, milk can gasket, cap for bulk ice cream containers, and various other uses where there is both a grease problem and the existence of a high degree of liquid moisture.

For samples and prices write to the Rhinelander Paper Company, Rhinelander, Wis.

●

Remote Control

VARIATIONS in speed of U. S. Varidrive motors by pneumatic remote control are now possible through a recent development of U. S. Electrical Motors Inc. This control consists of a positioning unit—an air operated plunger attached to the Varidrive speed changing device and an air valve which remotely controls the positioning unit. Four types of valves



are available depending upon the method desired to operate the mechanism—pedal, lever, cam or wheel. The positioning units operate with an air pressure of either 60 or 100 psi.

Through the use of check valves and control station selectors in the system, the speed of the Varidrive can be changed from any number of control stations. Conversely, any number of Varidrives may be controlled by one station providing they are to operate at the same speeds.

If desired, the pneumatic control may be used to provide speed changes from one pre-set finite speed to another by one quick movement. Further information may be obtained by writing to U. S. Electrical Motors Inc., 200 E. Slauson Ave., Los Angeles 54, Calif.

Cold Drink Dispenser

THE announcement of a unique type of electrically refrigerated drink dispenser has come from the Jet Spray Cooler Company of Somerville, Mass.

Among the outstanding features is a magnet-driven pump enclosed within the 3-gallon plexiglass strata-dome bowl which continually circulates the contents around the cooling turret. A constant thermostatically controlled temperature of 38° to 40° is thereby maintained from top to tap.

No agitator paddles or clutches are necessary. For cleaning, the entire reservoir and tap is lifted off as one piece. The liquid circulates only in this unit.

The new Jet Spray dispenser unit is rubber mounted to avoid vibration and noise, and is encased in a dent, chip, and stain-proof royal blue plastic cabinet. The entire unit measures 21½″ x 17½″ x 17″.

●

Building Maintenance Manual

THROUGH research during the past 30 years, Stonhard Company has found the answer to many repair or building maintenance problems. This valuable information has been condensed into their famous 48-page manual, "Over the Rough Spots."

This guide to practical, economical building maintenance tells how you can patch holes or resurface any type floor, simply and quickly, how to solve water seepage in underground foundations, repair leaky roofs, preserve concrete or wood surfaces, protect structural steel from rusting, and gives many other time- and labor-saving methods. Send for your copy by writing to Stonhard Company, 600 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23, Pa.

Milk and Soft Drink Vendor

A FULLY automatic milk vending machine, the Dari-O-Matic 500, is now being manufactured by the Fruit-O-Matic Manufacturing Company, 5225 Wilshire Blvd., Los Angeles 36, Calif.

The Dari-O-Matic 500 is four machines in one. It offers a choice of

four separate items in one-half pint and one-third quart cartons, such as milk, chocolate milk, orange or other fruit drink, as well as a canned juice. Four separate coin slots enable four people to be served from the machine at the same time. With the use of the latest type coin changers, variable price merchandising permits selling at odd-cent prices.

The Dari-O-Matic 500 has a maximum capacity of 512 cartons in vending and in precool storage. It was particularly designed to offer a better and more efficient service in schools, factories, military camps, and other public locations.

●

Milk Can

TRADITIONAL basic style of the milk can has given way to progress. The dairy industry now has a milk can that saves some of the creamiest part of the milk. Developed by Solar-Sturges Manufacturing Division, Pressed Steel Car Company, Inc.

(Melrose Park, Ill.), the new tin steel can is being received with enthusiasm.

Streamlining the can so that the approach to the neck is a smooth wide arc which begins at the middle of the can allows milk to flow faster and completely out of the can. Some milk will cling to the side of the can, just as in a glass of milk, but faster pouring means less milk will stay behind on the sides. Milk drains about 30% faster from the new can.

All points inside the can are fully visible and easy to clean and inspect. Furthermore, the can is more easily cleaned by mechanical can washers at washing stations.

Another feature which adds to the sanitation of the can is its narrow pouring lip which eliminates a possible dust catcher. Over-all dimensions and weight are the same in the new style can as in present cans, making it possible to use the two together.

●

Floor Resurfacer

WORN FLOORS can be given a smooth jointless surface with this practical, economical resurfacer developed to withstand the heaviest industrial use. Combines the durability of concrete and the flexibility of wood. A ½" topping of this material provides a new surface

Manufacturer says that Flexrock is non-dusting and fire-resisting. Withstands vibration and will not splinter,

warp or crack. Also, withstands heavy abrasive traffic and any weight the substructure will bear. Flexrock Resurfacer is warm and easy on the feet. Flexrock comes in one complete unit, no other materials to buy.

Application is easy and floor is ready for use overnight. There are five colors plus natural to choose from. Write Flexrock Company, 3601-V Filbert St., Philadelphia 4, Pa.

Deduction and Pay-back Rates Under "Level Production Incentive Plans" in Various Milksheds in the United States Since Their Inception in 1941[1]

Market	Year	Deduction rates: April	May	June	July	Pay-back rates: Sept.	Oct.	Nov.	Dec.
		(Cents per hundredweight of milk)							
Louisville, Ky.	1944	15	15	15		12.5	13.2	14.6	14.0
	1945	20	20	20		25.4	38.3	31.8	
	1946	20	25	25		28.0	31.0	34.0	
	1947	30	30	30		36.0	40.0	45.0	
	1948	35	35	35		41.0	44.0	47.0	
	1949	30	30	30		36.0	40.0	42.0	
	1950	26	26	26		29.0	30.0	35.0	
	1951	26	39	39	39	42.0	42.0	49.0	46.0
	1952	47	47	47	47				
Kansas City, Mo.	1946		20	20	20		23.9	26.5	24.1
	1947		20	20	20		28.0	32.0	31.0
	1948		20	20	20		24.8	26.6	24.6
	1949		20	20	20		24.0	26.0	24.2
	1950		20	20	20		24.0	26.0	25.5
	1951		20	20	20		26.5	29.5	28.4
	1952		40	40	40				
Washington, D. C.	1946	30	30	30		33.0	36.0	36.0	
	1947	40	40	40		43.0	46.0	51.0	
	1948	50	50	50		52.0	54.0	61.0	
	1949	50	75	50			50.0	89.0	51.0
	1950	50	75	[2]			50.0	83.0	[2]
	1951	50	75	50			52.0	91.0	50.0
	1952	50	75	50					
Connecticut (state-wide)	1947		50	50			57.0	66.0	
	1948		50	50			60.0	64.0	
	1949		50	50			54.0	58.0	
	1950		50	50			55.0	59.0	
	1951		50	50			57.0	63.0	
	1952		50	50					
New Bedford, Mass.	1947		40	40			52.0	55.2	
	1948		40	40			49.9	51.2	
	1949	40	40	40			46.7	47.9	48.5
	1950	40	40	40			46.7	47.4	47.4
	1951	40	40	40			46.6	47.6	46.4
	1952	40	40	40					
Sioux City, Iowa	1947		20	20		20.0	20.0	24.0	
	1948		20	20		20.0	21.0	21.0	
	1949		20	20		19.0	21.0	23.0	
	1950		20	20		19.0	20.0	21.0	
	1951		20	20		18.0	18.0	18.0	
	1952		20	20					
Denver, Colo.[3]	1948		40	40		52.0	52.0		
	1949		40	40		52.0	52.0		
	1950		40	40		52.0	54.0		
	1951		40	40		52.0	52.0		
	1952		40	40					
Topeka, Kans.	1948		20	20	20		28.0	27.4	24.7
	1949		20	20	20		26.0	27.0	24.0
	1950		20	20	20		28.5	28.0	26.5
	1951		20	20	20		26.0	26.5	24.0
	1952		40	40	40				
Duluth, Minn.	1951		30.9	31.9	32.3		55.4	60.7	54.5
Superior, Wis.	1952		33.5	32.9	33.9				
Columbus, Ohio[4]	1952	32	32	32	32				
Rochester, N. Y.	1952		40	40					
Clinton, Iowa	1946		20	20		20.7	20.3	[illegible]5	
	1947		20	20		17.5	16.2	18.3	
	1948		20	20		21.6	20.7	21.7	
Nashville, Tenn.	1949	45	45	45		54.1	58.0	57.9	
	1950	45	45	45		50.6	51.1	57.6	
	1951	45	45	45			55.2	62.6	58.3
Youngstown, Ohio	1945		15	15			15.0	15.0	20.0
	1946		15	15			15.0	15.0	20.0

[1] This table includes all the milksheds using a fall premium plan of which the author has knowledge, with the exception of some Virginia markets where cooperatives with part of the supply use the plan for their own members.

[2] Deduction not made this month because of strike in market in June, 1950.

[3] Payment is made on a butterfat basis; rates given are for 4.0% milk.

[4] Take-out is at rate of 35c per hundredweight on Class I and II, and is estimated to be 32c on all milk.

From University of Connecticut Department of Agricultural Economics

Credit Managers — *How About This?*

Ever Compliment the Customers Who Pay Up Promptly? Here's a Company That Did with Surprising Results

LETTERS started going out this week to a great many customers of the Thatcher Glass Manufacturing Company, Inc., Elmira, N. Y., concerning their credit. However, instead of the conventional "collection" letter, this is to the customers who have regularly paid their bills in the past. The letter reads:

"All too frequently a credit man is prone to overlook the customers who consistently handle their accounts in accordance with the terms of sale. I suppose to some extent we may be excused, since we must devote our time to those accounts which are habitually delinquent.

"Recently, I checked your ledger sheet and felt that I should comment personally upon the excellent payment record you have established with us, even though you probably regard it as a matter of course. You have made my job easier and more pleasant, and whenever anyone has asked us for information about your dairy, it has been our pleasure to quote that fine record of yours and tell them how highly we regard you.

The Sales Department joins me in thanking you for your business, which, we hope, will be our privilege to handle for many years to come."

The custom, which started a year ago soon after the appointment of 27-year-old David J. Yaeger as Credit Manager, has brought forth a surprised but pleased response in the form of continued good business and a raft of thank you letters. Typical are these quotes.

A large dairy distributor writes: "I believe it is the first letter we have had from a Credit Manager expressing appreciation of our good record. This certainly should build goodwill for your company."

A long-established jobber says: "We appreciate the consideration you have given our account in taking time to review and comment on it. During the years we have distributed your products in this territory, no firm with which we do business has been as cooperative in every way as your own."

DAVID J. YAEGER

A major soft drink bottler comments: "Too often the nice things in life go by without acknowledgment and it is nice to know that you appreciate our business."

Although last year's innovation was not publicized, a letter to a Cincinnati customer found its way into the hands of master letter writer and lecturer, Charles Bury. This year the Thatcher letter is reproduced in part in Bury's series, "How to Write Great Letters," sponsored by the National Research Bureau, Inc.

Of it, Bury says: "But how many companies go out of their way to occasionally give a pat on the back to those customers who always pay on time? Thatcher . . . writes such a letter to its customers, so unusual it almost takes the breath away."

An NRB executive wrote: "Yours is such a simple gesture, yet it goes a long way toward building up customer relations."

This year a similar letter went out to 98% of last year's recipients who had kept their prompt payment record. Added to the list are at least 100 new accounts. The new ones will receive Letter No. 1. In both letters a copy goes to the Divisional Sales Manager and to the salesman servicing the account.

Letter No. 2 says in part:

"Recently our company acquired a new glass division with an entirely new set of credit problems, which further complicates the ordinary problems and pitfalls confronting a credit man. Every spare moment of our time has been devoted to the problem of coordinating this new system into our own. The knowledge that payments from the ..... Company would be coming in as consistently as they have, has made the over-all job easier.

This all boils down to the fact that doing business with you has been a definite pleasure. We certainly hope we will have the privilege of handling your account for many years to come."

The "new glass division" referred to is the almost century-old McKee Glass Company of Jeannette, Pennsylvania, acquired earlier this year and marking Thatcher's entry into the consumer field and pressed glass industry. The McKee Division makes Glasbake Ovenware, Patio Kitchenware, Rangetec, Coffee Hottles and other products for retail, plus commercial and industrial glass.

As its sales and credit policies are re-organized and integrated into those of the parent company, those of McKee's customers with a 100% credit rating will also receive the friendly letter from Dave Yaeger. According to Yaeger, "The idea was born out of our desire to show appreciation for recognition of our terms which were explained to the customers when the order was taken."

WANTS AND FOR SALES

Classified Advertising Rates

(Kindly send remittance with order)

Position Wanted

50 word maximum, 50c — 2c for each additional word.

All Other Advertisements

Lightface type: 5c per word ($1.00 minimum).
Boldface type: 10c per word ($2.00 minimum).
(The name and address should be included in counting the words.)

Keyed Address

25c additional in the United States.
50c additional in Foreign Countries.

When replying to any of the following keyed advertisements please address replies to:

BOX NO. ..... **AMERICAN MILK REVIEW**
92 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

Don't Say

"Gimme"

Say,

"I've got it!"

EQUIPMENT WANTED

WANTED—Good used boilers, high or low pressure—also used smoke stacks, pumps and motors. Give complete information and prices. Otto Biefeld Co., Watertown, Wis. 11-M-52

WANTED — Used 56 mm. square quart milk bottles—also used quart cases for square bottles. Hough Dairy, Richmond, Ind. 11-M-52

EQUIPMENT FOR SALE

FOR SALE—2 Only 160 gal. ea. capacity Cherry-Burrell Pasteurizers complete with thermometers and Sentinel Temp. Controls. 1 York-Plate Sweet Water Cooler with compressor. 1 Young Refrigerator Blower—Thermo Control. 1 Sweet Water Cooler with compressor and 2 Frigidaire Blowers—Thermo Controls. 1 Fort Wayne 5-valve twin head Filler and Capper. 1 Creamery Package Soaker-Hydraulic Bottle Washer and Case Washer with motor. 1 Duncan Quick Cooler—6-can capacity. 1 Icy-Flo sweet water Cooler. 1 28-foot Bottle Conveyor with turn stool and motor. 1 Pfaudler Pasteurizer — 200-gal. — complete with Thermometer. 1 DeLaval Clarifier No. 29. 1 Waukesha Sanitary Milk Pump. 1 Manton Gaulin Pre-heater—pump and motor. 1 Lewis Centrifugal Pump with ¾ h.p. motor. 1 upright boiler with automatic filling system and Delco Oil Burner. 1 Cherry-Burrell Centrifugal Milk Tester. 1 Hot Water Tank. Stainless steel tubing and fittings. WILSON DAIRY, Wilson, Ark. 11-M-52

EQUIPMENT FOR SALE

FOR SALE—12 Stainless Steel Milk Tanks, 3,000-gal. cap.; agitated and insulated. Excellent condition. PERRY EQUIPMENT CORP., 1409 No. 6th St., Philadelphia 22, Pa. 11-M-52

FOR SALE—150 gal. Jensen 88 Vacuum Pasteurizer; 100 to 300 gal. 88 pasteurizers; 8,500 lb. York and 11,000 lb. Creamery Package short time pasteurizers; 350, 650, and 1,000 gal. coil vats; Creamery Package plate cooler, single section, 58 plates; 6' 24 and 26 tube surface coolers with 88 covers; Jensen 88 cabinet cooler, 8 wings, 56 tubes for sweet water. Combination of 1,000 lb. 88 weigh can and scale with 1,700 lb. 88 receiving vat; Lathrop Paulson 8 CPM can washer. Sharples "Pressur-Seald" all stainless clarifier, 12,000 lbs. No. 188 DeLaval "Air-Tight" clarifier, 20,000 lbs.; 3,000 and 4,000 gal. glass-lined tanks (by-products only). 32"x90" Buffovak double drum milk dryers. Many other desirable items such as Fillers, Washers, Homogenizers, Freezers, Pumps, etc. Send us your inquiries. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y. 11-M-52

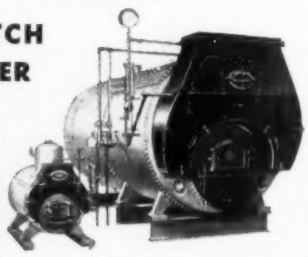
REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate Coolers and Heaters, Homogenizers and Bottle Washers. Send us your requirements. Ohio Creamery and Supply Company, 701 Woodland Avenue, Cleveland 15, Ohio. 11-M-52

EQUIPMENT FOR SALE

FOR SALE — Two Cherry-Burrell square type 150 gallon pasteurizers. Serial numbers 3955 and 3958. Stainless steel lined, complete with automatic controls and thermometers. In excellent condition. Lawrence W. Oatman, 219 Third Street, Dundee, Illinois. 11-M-52

FOR SALE—2 Illinois Creamery Pasteurizer, 200 gal., $400 each. 1 No. 136 DeLaval Air Tight Clarifier, $1,000. 1 25 BB Waukesha Pump, 1½ h.p. motor, constant speed drive, $200. 1 Federal filler 6, 48 mm valves, 3 capping heads, 1 Econ. Seal capping unit, 3 capping heads, 1 bottle conveyor with stainless hood—30' long, $2,500. (or will sell separately). (Note: These four items are almost new, original cost $4,700). 1 Purity can washer, 3 C.P.M. 1 C.P. 5x5 compressor, serial No 2272, $400. 1 York Hi-K sweet water cooler, Serial Nos. 2194014-2200426, 9 stainless plates complete with headers, float controls, water tank, water pump and stainless covers, 45 ton water cooling capacity. (Cost new $4,700), $1,800; 1 Specialty Brass 3-valve automatic jug filler for 2⅜" jugs, Model RF-8-O, Serial No. 12098, $1,000. 1 Sample Cabinet — refrigerated — with new compressor, stainless exterior, 3 wood doors, complete wth 15 trays of 35 bottles each, $225. 1 Mojonnier stainless steel 4-section compact cooler, polished aluminum covers—complete with ammonia controls. Each section with 48 tubes. Cap. 12,000 lbs. per hour, $1,800. Dixie Dairy Company, 1200 West 15th Ave., Gary, Ind. 11-M-52

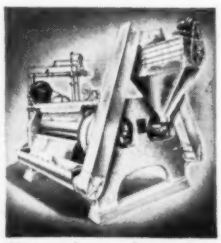
A Boiler WITH ECONOMY
A LEFFEL SCOTCH BOILER



Users of self-contained, compact Leffel boilers report fuel savings of from 20 to 40 percent. 17 sizes, 6 to 250 actual horsepower. Sturdy construction permits substantial overloading with safety. Designed to burn COAL, GAS or OIL; easily converted from one fuel to another. There is an efficient Leffel Scotch type boiler, easy to install, ready to go to work in your dairy plant . . . today!

Write for descriptive catalog
The James Leffel & Co.
(established 1862)
DEPT. AM SPRINGFIELD, OHIO

Better DRY MILK AT LOWER COST



DRY MILK MACHINES
Built in Five Sizes

The Patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs. Complete details upon request

OVERTON MACHINE COMPANY
Dowagiac Michigan

EQUIPMENT FOR SALE

FOR SALE—26" diameter Mojonnier stainless steel vacuum pan with counter-current condenser, motor driven Nash vacuum pump, motor driven condenser-water discharge pump, operating platform, steam traps, steam pressure reducing valve, completely piped up. Equipment may be inspected during operation by appointment. Union Dairy Farm, Freeport, Ill. 11-M-52

FOR SALE—Complete equipment for operating small dairy plant. Includes 100 gal. Pasteurizer and Homogenizer. Stainless steel. N. C. Hopkins, 303 E. Rowe St., Roodhouse, Ill. 11-M-52

One new 300 gal. Cherry-Burrell Storage Vat with cooling plate, complete with heat exchanger and ammonia controls, 2" flush valves, SVAS—CR, stainless steel jacket, $2,650. One 10' Cherry-Burrell Sanitary Pipe Sink on legs (new) $150. One 200 gal. Spray Pasteurizer, Cherry-Burrell automatic temperature controls, stainless steel jackets, paddle type agitator, like new, $1,000. One Cherry-Burrell stainless steel Preheater, tank type, capacity 9,000 lbs. per hour, 6-1½" tubes, room for two more, like new, $400. One 2 h.p. Waukesha Sanitary Pump, MV type, V belt drive, pump overhauled by factory, like new, $500. One Creamery Package Buttermilk Pump with 1 H.P. motor, $100. One GV-16 Cherry-Burrell 16-valve Milwaukee Vacuum Filler and Capper. Serial No. 290. In good condition with bottle and case conveyor (slightly used) $2,000. One 4-wide Cherry-Burrell Bottle Washer in good condition (slightly used): as is, $750; or will rebush and go over thoroughly, $1,000. Two 200-gal. Viscolizer with stainless steel heads, good condition, $1,000 each. One Pack Rite Model MC Rotary Bag Sealer with stainless steel table and conveyor. Will handle 160 per minute of 2" bags, $500. Two Taylor 20-qt. Counter Models, Ice Cream or Custard Freezers, on stand with compressors. Fully automatic, used 60 days only, $1,250 each. Three low temperature Walk-In Boxes, inside measurements 6x6x11, 6x6x8, and 8x8x7, with compressors, blowers, automatic defrosting system, used one season, ideal for storage of ice cream or frozen food. Prices on request. One Mills 20-qt. capacity Ice Cream Freezer with 60-gal. hardening cabinet compressors, automatic controls, $1,500. One Taylor No. C-70 Hardening Cabinet with 1 h.p. compressor, slightly used, $500. One 10' low temperature Weber Frozen Case with compressor and automatic controls, capacity 1,000 ice cream pints or frozen foods, new, $1,500. SANDNER & COMPANY, P. O. Box 1769, Birmingham, Ala. 11-M-52

WANTED TO BUY

Creamery in southern or central Minnesota. Interested more in milk supply than building and equipment. Prefer one with large producers. Reply to Box 291, care of this publication. 11-M-52

PLANT FOR SALE

FOR SALE—Dairy business and bar. Well established, good equipment and building. Southern Michigan. Reply to Box 292, care of this publication. 11-M-52

FOR SALE—Milk plant and equipment in Northwestern part of Pennsylvania. Wholesale and Retail in paper and glass. Doing $25,000 each month. Price $95,000. Down payment $25,000. Terms to right person. Reply to Box 289, care of this publication. 11-M-52

BUSINESS OPPORTUNITY

WANTED—Partner with small capital to invest in retail and wholesale milk and ice cream business, privately owned and operated. Write to Box 284, care of this publication. 11-M-52

Want to represent on brokerage basis or as manufacturer's agent, lines of Dairy and Ice Cream supplies and equipment. Connections at present in Kentucky and Tennessee. Headquarters in Louisville, Kentucky. Available January 1st. Excellent references and experience. Reply to Box 290, care of this publication. 11-M-52

HELP WANTED

EXCELLENT CAREER OPENINGS, ICE CREAM FOREMAN AND MILK FOREMAN. — Growing company has openings for qualified foreman for ice cream department and milk department of branch plant located in Midwest. Degree in dairy technology and at least three years experience as foreman or assistant foreman of milk or ice cream department is desirable. Write, stating full qualifications and salary desired. Photo helpful. Reply to Box 288, care of this publication. 11-M-52

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United Farmers Reports Sales of $16,000,000 for Year Just Ended

A "Third of a Century in Marketing from Farmer to Consumer" was observed by United Farmers of New England, Inc., recently at Morrisville, Vermont, during the cooperative's 33rd annual meeting. Fifty-seven delegates representing some 1,900 northern New England dairy farmers who are members of the cooperative assembled to conduct the business of the farmer-owned and operated organization.

Howard W. Selby, general manager for the past 18 years, reported sales amounting to 16 million dollars for the fiscal year ending June 30, and pointed out that through the efforts of United Farmers and other cooperatives, milk prices were reaching higher levels, as was the standard of living of the region's dairy farmers and their families. "Formerly," he said, "dairy farmers kept cows; now, cows are keeping dairy farmers."

Trends in milk prices over the 33-year period were cited to show that in September, 1919, the Class I milk price was $3.56, while in September, 1952, it was $5.87. The Class II price was then $2.84, and now, $4.08, for the same months, and the blended price was $3.36 in 1919, and $5.12 in 1952. The butterfat differential has risen from 4 cents per point, or approximately 40 cents per pound, to some 9 cents per point, or about 90 cents per pound at the present time.

In describing the trends in the marketing of milk, Selby stated that an economic revolution is on in the dairy industry, which requires the alert attention of every dairy farmer. The widespread use of milk powder by housewives, the increasing use of vegetable oils, peanut oils, and other synthetics in the manufacture of ice cream, technological changes in the methods of milk collection on farms, and the types of milk handling equipment, present new problems for the younger generation of dairy farmers.

TRUCK TOPICS

(Continued from Page 66)

clerical work of any kind. At the same time, they like to boast of their cost per mile or cost per unit delivered. Without a pretty good record of the parts dispersed, it is pretty hard to determine how accurate any cost record may be. If parts and supplies applied to the trucks are entered on the job cards, be it preventive maintenance or overhaul, and there is a significant shortage in the stockroom at the end of the year, it is pretty obvious that all of the material used did not get charged to the trucks. If the stockroom records are kept, one record acts as a check on the other and both become useful in their separate ways.

A pretty thorough-going survey made recently disclosed that most fleets do attempt to keep a running inventory and find it useful. The survey also showed that quite a few fleets felt that they were not paying enough attention to the dispersal of parts.

Take another look at the value of that inventory and see if it is not worthwhile finding out where it goes.

THE HAYNES

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Model	Size	Number Packed to Carton	Price Each F.O.B. Cleveland
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2½ O	2 Oblong ½ Gal. Bottles	10	.41

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BORDEN HEAD CALLS FOR "SENSIBLE FARM POLICY"

The American consumer's adaptability to dietary change will help the nation solve the problem of feeding the 190 million population predicted for 1975 by the Census Bureau, Theodore G. Montague, president of the Borden Company, told the Annual Newspaper Food Editors Conference in the Plaza Hotel, in October.

At the current rate of increase, Mr. Montague said, 7,000 babies are being added daily to the nation's population. By 1975, this will be equivalent to adding a fifth plate on every dinner table. Moreover, the average American of 1975 will expect to have more food and will expect food of even better quality and variety than that which he is getting now, he added.

The consumer's role in helping the food industry keep the expanding market basket filled must be supplemented by increased cooperation on the part of the Government, greater productivity by the farmer, and improved efficiency by the food processors and distributors and their employees, Mr. Montague said.

Urging the Government to adopt sensible credit, taxing and spending policies designed to curb and not to encourage inflation, Mr. Montague warned:

"So long as inflation continues, food prices will continue to rise along with the prices of everything else we need, and no system of price controls can hold a permanent line against these increases. Moreover, every dollar taken from the consumer for taxation is a dollar less left for food purchase. The nation's current total tax bill of $83 billion is already $22 billion greater than the national grocery bill."

He also called for "a rational and sensible" farm policy which, for example, would encourage milk production when milk is needed, and discourage the growing of surplus crops. "It should not," he said, "result in fantastic situations such as we saw when potatoes were dumped in the ocean one year because of over-production and then went out of reach of the consumers because of scarcity and skyrocketing prices. Carried to the extreme, unwise government policies can create a food situation such as I saw during a trip to Argentina early this year: The world's third largest producer of cattle being forced to two meatless days a week because of a beef shortage."

More farm workers will be needed to supply sufficient food for the future, but to attract these workers, the farm must offer incentives competing with those of city life, Mr. Montague said. And the price received for his product, he added, is the most important incentive to the farmer.

o

WHEN YOU'RE SELLING MILK

(Continued from Page 30)

4. Improved family relations—no grouches
5. Better earnings—See above
6. Personal progress—See above

With a little imagination you could go on endlessly and each human want might find some trace of connection with milk. If a cigarette can "give you a lift" then a bottle of milk can perform other miracles.

I invite you to glance through any current magazine. Study the advertisements and you will see exactly what I mean. The item is not sold for its own intrinsic characteristics—and not only for the services it performs—but for what it does in helping the owner's dreams come true.

We are still looking for the Fountain of Youth. Every boy and girl has dreamt of unearthing a hidden treasure. Everyone looks to the end of the rainbow for a glittering solution to all of life's problems. And if you can illuminate the way to their simple everyday needs with your product they will flock to your doorway with their patronage.

Millions of people who are taking vitamins today haven't the slightest evidence of their merit. But vitamins promise a dream of better health—and users are afraid to stop. Hadacol promised nothing but "A Brighter Tomorrow" and piled up a fabulous sales record purely on that basis.

Milk has a legitimate story — so sound, so fabulous in itself as to justify the most extreme promises. You won't find the key on the farm but in a fantasy, for people are not realists —they are dreamers seeking escape. Give them a hope and they'll send you a harvest.

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